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ABSTRACT

What has been learned over the past few decades about children at risk is summarized, and current strategies to improve student and school performance and ways to achieve academic excellence with high reliability are suggested. Section 1 integrates research on students at risk into a conceptual framework for addressing societal, home, and school-related factors influencing academic success. Academic progress is considered an ongoing function of the quality of students' environmental and school-based resources and the incentives and pressures perceived by students to invest these resources in academic achievement. Risk factors are variables that decrease the probability of academic progress, aspects of societal, home, or school dysfunction rather than qualities inherent in children. Section 2 analyzes traditional and innovative responses to educating students at risk. Comprehensive strategies will be necessary to affect student opportunities and motives. Section 3 examines obstacles to reform implementation and suggests steps toward developing school organizational structures. Six main barriers to organizational reform are identified. Providing quality schools may be expensive, but in the long run it is cheaper than dealing with the effects of educational failure. (Contains 612 references.) (SLD)

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May 1993

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Youth & Community Research Group
P.O. Box 1113, Palo Alto, CA 94302-1113

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Educational Reforms and Students At Risk:

A Review of the Current State of the Art

May 1993

Alesia Montgomery and Robert Rossi
American Institutes for Research

Nettie Legters, Edward McDill and James McPartland
Center for Research on Effective Schooling for Disadvantaged Students

Sam Stringfield
Center for Research on Effective Schooling for Disadvantaged Students

Prepared for the U.S. Department of Education: Contract # RR1172011

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EDUCATIONAL REFORMS AND STUDENTS AT RISK: A REVIEW OF THE CURRENT STATE OF THE ART

Alesia Montgomery and Robert Rossi
American Institutes for Research

Nettie Legters, Edward McDill and James McPartland
Center for Research on Effective Schooling for Disadvantaged Students
Johns Hopkins University

Sam Stringfield
Center for Research on Effective Schooling for Disadvantaged Students
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PREFACE

As we approach the 21st century, economic and demographic trends are making the needs of students at risk, and the country's dependence on these young people, increasingly salient. Students traditionally regarded as "at risk" -- poor children and children of color -- are growing in numbers. According to some projections, by the year 2020 about one fourth of children will live in poverty, and children of color will comprise more than half of students in public schools (Natriello, McDill, and Pallas, 1990, p.36-38). Already, in many districts, children of color comprise the majority of public school students. It is from this young, ethnically diverse population that the next generation of scientists, engineers, and mathematicians must be drawn to replace retiring professionals in the next century (Kahn, 1992). And it is this young, ethnically diverse population that the aging Baby Boomers must depend upon to support the Social Security system (Hodgkinson, 1985, p.3).

Economic and demographic trends give a new urgency to education reform efforts, yet the personal and social costs of school failure have been apparent for decades. Huge disparities between the well-educated "haves" and the poorly skilled "have nots" intensify social divisions and contribute to urban decay and violence. The escalating costs of our welfare and prison systems cannot be measured simply in dollars and cents -- all of us, including those caught within these systems, pay for unemployment and crime with a loss of security and well-being.

And there are less dramatic costs, costs that rarely make the evening news. Most poorly educated young people do not become life-long welfare recipients or career criminals. Too many of them labor long hours at dead-end jobs for wages that fail to raise their families out of poverty; they enroll in store-front vocational "colleges" that immerse them in debt and fail to prepare them for promised career opportunities; they struggle to read the employment application or the letter from their child's teacher that demands more literacy skills than they possess; they die at earlier ages from illnesses and diseases related to poverty.

Unless we establish reforms that ensure excellence in education for all, increasing numbers of young people may be forced to pay the costs of inadequate schooling. The widely cited report *A Nation at Risk* warns that U.S. students as a whole are at risk of developing lower skill levels than their counterparts (and future trade competitors) in other countries (National Commission on Excellence in Education, 1983). In an international assessment in 1991, the average math and science scores of U.S. thirteen year olds were lower than those of their foreign counterparts (National Center for Education Statistics, 1992, pp.9-10). In science achievement, even *advanced* U.S. students tended to score lower than advanced students in the other countries assessed (National Center for Education Statistics, 1992, p. 52). Perhaps these disparities are due to differences in student motivation at test time, dissimilarities in the pools of students assessed, or to other extraneous factors that may have skewed the results. However, we cannot ignore the possibility that they reflect significant achievement gaps between U.S. students and students in other countries.

All of our young people are at risk, but some are much more at risk than others. The gaps in scores between U.S. and foreign students, although troubling, are much smaller than the gaps in scores between better and poorer test performers in the U.S. (National Center for Education Statistics, 1992, p. 40). Furthermore, the type and severity of conditions that place students at risk vary. While some students are at risk of developing mediocre skills, others are in danger of being caught up in street violence.

Which educational strategies work best with which children? Too often, glowing reports of new programs do not explain how specific program components address diverse student needs. To establish quality education for our young people, we need to look at all aspects of our schools -- curriculum, instruction, assessment, staff development, and organizational strategies -- as well as factors outside of school that influence students' "readiness to learn." Our challenge is to institutionalize practices that stimulate all students to learn, while ensuring that the diverse needs of students at greatest risk are met in a non-stigmatizing manner.

Educational Reforms and Students at Risk:
A Review of the Current State of the Art

Executive Summary

The need to "raise the performance of at-risk youth" has become a popular rallying cry for school reform, yet there is often confusion or disagreement about which children are at risk, why they are at risk, and what can be done to improve their chances for success in school and adult life. Too often the media sensationalize dropout rates and test scores, while oversimplifying or ignoring the reasons why children become at risk. Adding to the confusion, the literature on students at risk is constantly expanding and changing, and there are varying and often sharply divergent interpretations of the data on students at risk and the programs that serve them. The purpose of this monograph is to bring together what has been learned over the past few decades about children at risk, to analyze current strategies designed to improve student and school performance, and to propose ways of achieving academic excellence with high reliability.

Section I - Becoming At Risk of Failure in America's Schools

In this section we integrate research on students at risk into a conceptual framework for addressing the societal, home, and school-related factors that influence academic success.

An Historical Overview

Social, political, and economic changes have led to an expansion of educational opportunities for all students and fostered concerns about "at-risk youth." However, the effects of past injustices linger on. If we are now a "nation at risk," it is -- to a large extent -- the culmination of disastrous, persistent, and in many cases intentional biases in our educational system and society.

Throughout much of U.S. history, the separate and unequal schooling of poor children and children of color has been reinforced by social mores, justified by pseudo-science, and, in many cases, mandated by law. After World War II, divergent trends intensified demands for expanded accessibility to high quality education. Varied approaches (desegregation, compensatory education, and community/culture-based instruction) have been attempted to achieve educational equity, excellence, and relevance.

Student Background

Historically, children of color and poor youth have been disproportionately at risk in our schools. Yet they are not the only children at risk. Any child who lacks sufficient support may fail to develop adequate academic and social skills. Prenatal conditions, quality of health, family characteristics, peer influences, community climate, and social status may be affected by support networks and significantly influence a child's "readiness to learn."

Diverse strategies involving school, business, social service, and community-based organizations have been suggested to reduce environmental risks. Notable in the literature is a shift away from a single-minded focus on crisis intervention to an emphasis on preventive or developmental services that bolster families and address multiple needs. While many of these interventions may center on schools or involve collaborations between schools and communities, others may require fundamental changes in social services and society. Specific strategies proposed by various researchers, policy makers, and child advocates include:

- **Improvements in health, nutrition, and prenatal care programs** e.g, expansion of prenatal and drug abuse programs for poor women; increased availability of immunization against childhood diseases; expansion of school lunch program; comprehensive health clinics for school-aged children in low-income areas; school-based teen health clinics; school provision of family planning information and/or contraceptives; expansion and improvement of children's mental health care; universal health coverage

- **Enhancement of living conditions** e.g., increased availability of low-income housing; reduction in the density of urban residences; strict enforcement of building codes; improvement of the quality and quantity of shelters and counseling targeted to homeless children and teens; school programs targeted to address the needs of homeless young people

- **Strengthening families and preventing abuse** e.g., expansion of parent education and child abuse prevention programs; home health visitors for infants at high risk of abuse or neglect; media campaigns to raise awareness about child endangerment issues; positive public service messages to encourage fathers to become actively involved in childrearing; creation of social service policies that promote rather than penalize two-parent households; parenting and employment programs for teen fathers; strict enforcement of child support laws

- **Expansion of youth programs** e.g., non-stigmatizing youth programs that offer real opportunities for mentoring and skill development; school-based programs that offer before- and after-school care, especially in areas with high percentages of low-income single parents

- **Increased school, community, and parent collaborations** e.g., seed money grants to encourage teachers to develop local school/community educational networks; increased involvement of businesses, parents, and community groups in counseling, dropout prevention, and apprenticeship programs

- **Community development and social change** e.g., rebuilding sense of community and family values; expansion of economic opportunities in impoverished areas; promoting "community empowerment"; encouraging youth to volunteer and become positively involved in their communities

Some of these proposals are controversial, and many may be quite expensive to implement. Proponents argue that these programs would be less expensive than raising a "lost generation" of young people unable to find employment, care for their families, and meet personal and social responsibilities.

School Environment

It is important to recognize the effect of student background on children's "readiness to learn. Yet are our schools "ready to teach" children from diverse backgrounds? Many of the schools that serve poor children and children of color may lack an engaging school climate, adequate support services, and challenging instruction. Proposals to enhance the school environment for children from diverse backgrounds include:

- **Improvement in school administrative and support services** e.g., improved psychological and guidance counseling; flexible schedules for teen mothers and working students; support for highly mobile and homeless students

- **Enhanced relevance and rigor of instruction** e.g., using the cultural knowledge that children bring to the classroom as "scaffolding" to build their skill acquisition; culturally relevant curriculum; high academic expectations; sensitivity to differences in learning styles; heterogenous instructional groupings

- **Equitable and efficient use of resources** e.g., increased funding for needy schools; targeting resources to attract better school staff and teaching materials

Conceptual Framework. Drawing upon the literature on students at risk, we argue that academic progress is an ongoing function of (1) the quality of students' environmental and school-based resources and (2) the incentives and pressures perceived by students to invest these resources in academic achievement. Past returns on educational investments cumulatively impact the likelihood of academic success.

In our conceptualization, "risk factors" are variables that decrease the probability of academic progress. Too often, entire socioeconomic groups are stigmatized with the "at risk" label, implying that they are somehow inherently less capable of academic success. We believe that risk factors are best conceptualized as aspects of societal, home, or school dysfunction rather than as qualities inherent in children. If an improvement in resources eliminates the risk factors that threaten academic progress, a student should no longer be considered or labelled "at risk."

Section II - Rising to the Challenge:
Emerging Strategies for Educating Students at Risk

In this section, we analyze both traditional and innovative school responses to the challenge of educating students at risk. Given the diversity of the student population, no single strategy will provide the solution to all education-related ills. The challenge for researchers, policy makers, and practitioners is to develop connected strategies that stimulate learning among all students, while ensuring that the specific needs of students at greatest risk are not lost in the fray.

Compensatory Education: Traditional Responses and Current Tensions

Schools traditionally have responded to student diversity and poor academic performance with both organizational and programmatic approaches. Organizational approaches include ability grouping and grade retention. Programmatic approaches include special education and Chapter 1 pull-out programs. These traditional approaches may stigmatize students, decrease learning opportunities, provide less stimulating learning environments, and lack cost-effectiveness.

Tensions emerging from the knowledge base of nearly thirty years of practice are causing researchers and educators to question these traditional approaches. Remedial programs are now encouraged to emphasize higher-order thinking skills, and mainstreaming and whole-school restructuring are embraced as alternatives to pull-out programs.

Emerging Strategies

To create a challenging, non-stigmatizing learning environment that meets student needs, policy makers have proposed significant changes in curriculum, instruction, assessment, and organizational strategies. Specific proposals include:

- **Changes in curriculum** e.g., focus on real-world experiences to attract student interest; integration of academic and vocational skills so that students are well-prepared for both college and the job market

- **Changes in instruction** e.g., adults as mentors or advocates; provision of race-sex role models; cooperative learning; peer tutors and mentors; one-on-one tutoring; using computer programs to develop higher order thinking skills rather than simply as basic skill drills

- **Changes in assessment** e.g., "alternative" or "authentic" assessments; assessment and recognition of incremental student progress

- **Changes in school organization** e.g., creation of smaller academic units within large schools, or "schools-within-schools;" team teaching

- **Closer connections with work or college** e.g., university outreach to students at risk; school-to-work apprenticeship programs

Strategic Issues

If schools are interested in producing lasting positive effects for students at risk, they need to develop comprehensive reform strategies that influence students' opportunities and motivation to learn. To affect opportunities and motivations, a comprehensive strategy must promote academic success, relevance of the school program, positive relations within school, and supportive conditions beyond school.

Unfortunately, even when promising reforms contain these elements, they may have a "fade-out" effect because the programs are short-term. The learning gains achieved in early intervention programs may dissipate unless these gains are supported and built upon in the later grades.

Also, policy makers need to be aware that different kinds of assistance may be more important at different stages of development. The nature of students' problems changes as students approach maturity. Thus, while family support teams may help elementary students, high school students may need help with drug abuse or pregnancy.

Finally, policy makers must recognize that both case management approaches for students with severe problems and school-wide reform plans for all students are necessary to improve education. School-wide reforms must be attended to first, especially in schools with large numbers of students at risk, since poor instructional environments will not support student learning even for those provided with extra help.

Section III - Barriers and Pathways to Meaningful Reforms: The Need for High Reliability Organizational Structures

In the final section of this monograph, "Barriers and Pathways to Meaningful Reforms: The Need for High Reliability Organizational Structures," we examine the obstacles to reform implementation and suggest steps towards developing school organizational structures that may help ensure higher student success rates.

Organizational Barriers to Reform

If effective strategies for achieving educational equity and excellence are already known, why aren't they being implemented? For schools to improve, educators, parents, and other concerned citizens must engage in contextually sensitive organizational development. There are six main barriers to organizational reform:

1) **Obstacles are not clearly understood and stated.**
2) **It is hard to determine the best solution within an individual site.**
3) **Prior educational strategies are not always compatible with school contexts.**
4) **The human and fiscal costs of implementation are typically underestimated.**
5) **The requirements for full implementation are not understood.**
6) **Programs often fail to gain public support.**

To remove these barriers to reform, the strengths and weaknesses of schools need to be honestly assessed, and solutions must be sought that have been proven to work in similar situations. Proposed solutions must be made compatible with the current strengths of the school, and the requirements of full implementation must be thoroughly understood by all participants. In addition, public support must be built through effective information gathering and development of a sense of shared purpose.

Towards Schools as High Reliability Organizations (HROs)

In areas deemed critical to the public interest (e.g., air traffic control), organizational structures have evolved to meet the requirements of virtual 100% reliability. High reliability organizations develop standard operating procedures, train staff, coordinate activities, and monitor performance with the utmost care. Schools must make major organizational changes if they are to produce academic success with similar high reliability. These changes will be more expensive than the costs of maintaining the present organizational structure, but ultimately they will be less costly than paying for continued expansion of welfare, police, and prison programs.

We now know enough to improve the reliability of schools for students at risk. Many of the systemic, school-, and classroom-level changes can be described and undertaken. Whether as one nation and as a conglomeration of over 15,000 school districts we can muster the will to fully implement what we know, fund the search for new knowledge, and achieve universally high quality schooling for students remains an unanswered question.

SECTION I

BECOMING AT RISK OF FAILURE IN AMERICA'S SCHOOLS

Alesia Montgomery and Robert Rossi
American Institutes for Research

CHAPTER 1

AN HISTORICAL OVERVIEW

At the turn of the century, the vast majority of young people lacked high school diplomas (Hodgkinson, 1985, p.11). Only an elite received sufficient education to pursue white-collar careers. Most young people, following in their parents' footsteps, dropped out of school to seek jobs in agriculture, manual trades, or small, family-owned businesses.

Although average student performance was lower in the early 1900s than it is today, it is popular to reminisce about "the good ol' days" when (presumably) the quality of public education for all students was high, and family and community life were ideal. In reality, schools felt much less pressure than they do today to achieve equity and excellence. Many challenges that schools must now confront were also present in early twentieth century America, but they were not addressed because they were not a priority to many policy makers.

When we romanticize early American society and its schools, we can not fully appreciate how much progress towards equity and excellence has been made since the turn of the century. Nor can we fully grasp the deep-rooted and enduring nature of the challenges that U.S. schools face. If we are now a "nation at risk," it is not due simply to recent educational, demographic, or social trends, but rather it is -- to a large extent -- the culmination of disastrous, persistent, and in many cases intentional disparities in our schools and society.

Student Diversity: An Enduring Characteristic of U.S. Education

Student diversity is not new to America's school system. There were always regional and socioeconomic differences, cultural and linguistic differences -- in fact, it would be hard to name a significant source of student diversity today that was not present a hundred years ago. The major difference between then and now is the growing awareness that all students -- including those who differ in some way from the "average" student -- must be provided with an equitable, non-stigmatizing education.

Immigrant children and children of color are two sources of diversity that have always aroused controversy. In the early 1900s, statistics collected by the U.S. Immigration Commission indicated that the majority of students in many large urban areas were children of immigrants. Their parents came from diverse corners of eastern and southern Europe -- Italy, Russia, Poland -- and diverse social backgrounds. Some immigrants were from middle or upper class backgrounds, arriving in the U.S. with substantial skills and savings. However, many were impoverished and poorly educated. Similar to today's immigrants, they often were fleeing from intense poverty or persecution in their homelands, lacked familiarity with American folkways, knew little English, and were resented by the dominant society. Many immigrants would live to see their children or grandchildren blend into mainstream society and rise to the ranks of the middle class. However, in the early 1900s, most immigrant children dropped out of school to obtain low-wage jobs. Some became involved in street crime, leading to anxieties about gangs of urban "delinquents."

Racial diversity is also not a recent trend: the expansion of the territorial United States incorporated a large, diverse population of people of color, the forebears of today's African-Americans, Alaskan Natives, American Indians, Guamanians, Mexican-Americans, Native Hawaiians, Puerto Ricans, Samoans, and Virgin Islanders. Similar to the European immigrants, the cultural and linguistic backgrounds of these non-white groups were perceived as "alien" by the dominant society. Unlike the immigrants, many native born people of color did not view or experience America as a "promised land." Instead, the territorial expansion and economic development of the U.S. divested many non-white peoples of land, life, and liberty, locking their children into a racial caste system by force of law and custom.

Separate and Unequal

Throughout much of U.S. history, the separate and unequal schooling of diverse groups has been reinforced by social mores, justified by pseudo-science, and, in many cases, mandated by law. Ethnicity and class have been perhaps the most obvious and contentious bases for discrimination, but other student characteristics, such as gender and disability, have also been used to isolate and track students into "appropriate" courses regardless of potential or interest.

Children of Color. Arguments for the separate and unequal schooling of various races have not come just from backwoods bigots -- racism has pervaded the nation's major institutions. The framers of the U.S. Constitution, albeit eloquent in their defense of freedom and equality, sanctioned the separate and unequal treatment of blacks and Indians (Hirschhorn, 1976; Lynd, 1968). In the early twentieth century, passionate speeches against educational equity were well-received on the floors of Congress, rationales for separate and unequal were expounded by scholars at prestigious universities, and pseudo-scientific articles about the ineducability of certain races appeared in leading research journals (Newby, 1968). Ellwood P. Cubberly, an influential force behind the Pedagogy and School Administration program at Stanford University, proposed a model of education that envisioned separate schools for the "overage, defective, delinquent, or the Negro Race" (as quoted in Mohraz, 1979, p.49). Institutionalized racism elevated bigotry to respectability, fostering racial misconceptions and inequities that linger, in subtle and not so subtle ways, to this day.

As a result, the school experiences of African-Americans, American Indians, Mexican-Americans, and other ethnic minorities have often been harsh and alienating. During the early part of this century, it was widely argued that highly educated blacks were "not a force for good" -- to prepare blacks for their station in life, schools were directed to teach black children simple skills and values that prevented them from aspiring to "the white man's condition" (Odum, 1910/1968, pp.65,69). Teachers' salaries, school facilities, and classroom supplies given to black schools were generally inferior to those provided for white schools (Anderson, 1988; U.S. Commission on Civil Rights, 1976, p.2). Southern educators -- black or white -- who challenged this status quo sometimes risked their lives.

As African-Americans migrated to the North in search of better jobs and living conditions, they found *de facto* if not *de jure* segregation. Northern whites had more or less tolerated the small numbers of black professionals, tradespeople, and servants who had always lived among them. However, as impoverished blacks from the South flooded Northern cities, white flight and residential segregation ensued. Settling into poor areas occupied by white immigrants, African-Americans were forced to compete with the immigrants for education, housing, and jobs. Black parents discovered that the needs of their children were often regarded with hostility or indifference by school boards (Mohraz, 1979).

Similarly, the education of American Indian children was often insensitive to the needs of these children and their communities. Schools for Native children often suffered from insufficient funding and intolerance to indigenous cultures (Berry, 1972; Mathieu, 1976, pp.3-33; Okakok, 1989). The credo of one boarding school for American Indians, "kill the Indian, save the child," was intended to crush the children's allegiance to their Indian nation and replace it with a reverence for white culture (Noley, in press). To achieve this objective, children were removed from their parents, dressed in European-style clothes, discouraged from speaking their native languages, and subjected to strict discipline.

Although those who founded schools for Native children were zealously dedicated to their mission, the effects of their "help" often harmed children. A study conducted in the 19th century found that the work demands placed on students in Indian boarding schools would violate child labor laws in most jurisdictions (Noley, in press). Alienated and overburdened by the military-style discipline in these schools, some Indian children succumbed to diseases, while others suffered emotional injury.

Bias also significantly shaped and limited the educational opportunities of Mexican-Americans. Unlike the school segregation of Southern blacks, which was sanctioned by state laws, the segregation of Mexican-American children in the Southwest was controlled by local customs and school board policies (San Miguel, 1987a, p.469). Some school boards worried that Mexican-American enrollments would financially burden their districts. One superintendent who asked his school board if he should enforce the compulsory school attendance laws for Mexican-American children was told to "leave [Mexican-American children] alone" (San Miguel, 1987b, p.50-52).

Politically influential ranchers and farm-owners often discouraged the education of Mexican-Americans because illiterates were more likely to be content with manual labor (Carter and Segura, 1979, p.15; San Miguel, 1987b, p.50-51). They worried that well-educated Mexican-Americans would unionize and ask for higher wages, or migrate to the cities in search of better jobs.

"Good" racially separate schools? Segregated schools, in many ways, perpetuated institutionalized racism. However, by studying certain aspects of these schools, we can perhaps learn better ways of addressing the needs of children of color and fostering a sense of community within schools. As early as the 1930s, black researchers warned that the psychological harm inflicted on black children in prejudiced "integrated" schools might be worse than the harm inflicted by segregated schools (DuBois, 1935). Although segregated schools often lacked adequate facilities and materials, parents and teachers struggled to provide an education that instilled self-esteem and social responsibility in children of color.

Some researchers now call for a careful re-examination of the practices, resources, and impact of the racially separate schools of the past. For example, Siddle-Walker (1992) argues that it is wrong to assume that segregated African-American schools were, without exception, inferior to white schools. In a case study of a segregated high school, she examines the ways in which congruent expectations, shared goals, and mutual respect between parents and educators produced successful students.

Segregated school systems may have inadvertently strengthened cultural identification and cohesiveness. While educational segregation primarily served to reinforce the racial caste system in the Southwest, segregated Mexican-American schools may have actually bolstered Mexican-American culture (San Miguel, 1987a, p.470). And not all racially separate schools were "segregated" schools set up by whites. Some American Indian nations -- most notably the Cherokee and Choctaw -- instituted their own school systems, with initial help from missionaries, in the 19th century. Unlike the educational institutions managed by missionaries or the U.S. government, these school systems were controlled by the Indian nations and supported through tribal funds. The aim of these schools was to provide bilingual education and teach children useful knowledge about white ways. At the same time, a pre-eminent emphasis was placed on instilling the culture of their Indian nation (Noley, in press; Berry, 1972, p.36).

Impoverished children. At the turn of the century, schools that emphasized repetitive drills and harsh discipline alienated many poor children -- a 1913 survey of immigrant children in Chicago found that, if given the opportunity, most would choose the long hours and hard work of sweatshops to the stultifying conditions they faced in school (Kliebard, 1986). Some researchers argued against placing poor youth into college-track courses because they would not be able to afford higher education; to improve the employability of poor youth, educators were encouraged to teach them trades (Eckert and Marshall, 1938, p.210; also, see Katz, 1971). Most policy makers who proposed separate tracks for rich and poor children probably did not consider themselves to be "anti-poor." Rather, given the realities of family obligations and limited scholarship opportunities, vocational training was seen as a necessity for poor children. Whatever the original motives for tracking might have been, many people today charge that tracking stifles academic engagement and perpetuates social inequalities.

Early Reform Efforts. At the turn of the century, schools were charged with the responsibility of channeling the flood of European immigrants into mainstream society. These demands were often inspired by reform movements -- dating back to the 19th century -- to provide all students with a "common" and equal education that cut across ethnic, religious, and class differences (Lannie, 1971).

Many reformers had egalitarian motives. Some educators -- inspired by the writings of John Dewey and other reformers (e.g., Dewey, 1916) -- attempted to transform traditional passive, autocratic classrooms to active learning environments. Reformers believed that to cultivate the skills and individual initiative necessary for a free society, schools must reflect America's democratic ideals. However, the drive towards "Americanizing" immigrant and non-white children was, ironically, often fueled by intolerance to the expression of divergent ideas, religions, languages, and customs.

Simultaneously with the influx of immigrants, the country began to expand its urbanized, industrial economy. Similar to the current reform movement, schools were called upon to prepare students for the job requirements of a new era. Unlike today's reform efforts, however, developing poor children's "higher-order thinking skills" was not a priority. Children destined for low-wage labor were required to learn basic skills and the disciplined work habits suitable for factory positions (Tyack, 1974).

Equity, Excellence, and Relevance

After World War II, divergent trends intensified demands for quality education. People of color who had participated in the "fight against fascism" abroad were loath to suffer racism at home, sharpening demands for social equality and cultural sensitivity in schools. And Cold War rivalries over technological superiority prompted calls for excellence in math and science achievement. The post-World War II era quickened the pace and broadened the impact of school reforms, yet many of the ideas underpinning school reforms -- and resistance to reforms -- were not new. School reforms for poor children and children of color, for example, continued to be shaped by educational and social movements with a long and complex history.

Battles for school accessibility. The legal battles against the segregation of black students, culminating in the 1954 *Brown v. Board of Education* decision, are relatively well-known. The struggles of other groups for accessible, high quality education are less extensively studied, although these judicial and legislative battles also have an interesting history. The victory of Mexican-Americans in the Lemon Grove case has been called "the first successful desegregation court case in the United States" (Alvarez, 1986). And demands by American Indian groups pressured the refinement and enforcement of the 1934 Johnson-O'Malley Act, a Congressional mandate that encouraged public schools to enroll and address the needs of Native children customarily served by Bureau of Indian Affairs schools (Noley, in press, p. 26-27).

Not all of those who fought to make high quality education accessible shared the same philosophy and aims. Some reformers emphasized psychological and social concerns, arguing that segregated schools fostered feelings of racial inferiority in children of color and encouraged racial divisiveness; other activists emphasized educational equity issues. And while some desired court-ordered desegregation, others wanted parents and children to have a choice between high quality integrated schools and high quality racially separate schools.

Compensatory education. During the sixties, demands increased to improve the education of all impoverished students, including poor whites. Influenced by President Johnson's War on Poverty and studies that documented huge school expenditure disparities, some educators and policy makers began to see the "black/white problem" as a "poor/rich problem." Public pressure to remedy perceived educational and social disadvantages resulted in various compensatory education programs for poor children, of which Title I/Chapter 1 remains the most extensive and highly funded (for an overview of Title I/Chapter 1, see Chapters 7 and 8 of this monograph).

Calls for community control. Despite provision of compensatory education funds and legal victories against segregation, many people during the late sixties charged that schools for children of color were still separate and unequal. Even in desegregated schools, tracking often created dual systems of education for white children and children of color (Lowe, 1992). Furthermore, according to many parents and community activists, debates over school integration and fiscal equity addressed only parts of the problem -- the content of textbooks and instruction must also be made relevant to and supportive of children of color. Instructional materials and practices that belittle the backgrounds of children of color may be internalized as attacks on their self-worth and abilities (Noley, in press; Okakok, 1989).

Community activists argued that although policy makers, educators, and researchers were increasingly sympathetic to the plight of children of color, they often emphasized alleged family and community "pathologies" to explain children's problems -- school deficiencies were often ignored. Angered by the cultural insensitivity of those who came into their communities to "help" their children, many parents and activists demanded community control of schools (Carmichael and Hamilton, 1967, pp.164-171). Some activists fought for increased community power and school integration, while others believed that community-controlled, racially separate schools were necessary to foster cultural pride and awareness (Carter and Segura, 1979, pp.21-25). The pros and cons of these divergent approaches are still being debated.

"A Nation at Risk"

After the late sixties, the educational needs of poor children and children of color became less of a priority, although many of the conditions that placed students at risk were largely unchanged. Children of color, especially Mexican-American and Puerto Rican children, were increasingly segregated in impoverished inner-city schools (Arias, 1986). School desegregation and fiscal inequities continued to be hotly debated as legal and policy issues, but public interest in and support for radical education innovations waned. Budget cutbacks in many districts precluded expensive reforms. It would take major economic and social changes to return educational equity to the national spotlight.

In 1983 the widely cited report *A Nation at Risk* warned that U.S. students as a whole achieve lower skill levels than students in other industrialized nations (National Commission on Excellence in Education, 1983). Concerned about the nation's future work force, policy makers increasingly call for "excellence" in education. Report after report recommends that even non-college-bound young people must develop strong academic proficiencies (American Association for the Advancement of Science, 1989; National Research Council, 1989).

Recognizing that poor children and children of color will form a significant percentage of the future work force, policy makers have increasingly vocalized the need to improve the education of "disadvantaged" youth. However, some people warn that proposed reforms aimed at achieving educational "excellence" often do not provide a coherent plan for effectively educating students at risk (McCollum and Walker, 1992; Swift, 1986). Raising standards without providing adequate support to schools may increase academic failure and dropout rates.

Costs of school failure. The personal, economic, and social costs of academic underachievement are high. According to the U.S. Department of Labor's *Workforce 2000* report (1987), the fastest growing occupations will require some postsecondary training. A young person who leaves school with inadequate skills will be increasingly at a disadvantage in the job market (Berlin and Sum, 1988; Reich, 1990). As an *Urban Institute* (1991b) report points out, over the next ten years the economy is likely to generate large numbers of new, low-skill jobs -- but the wages for low-skilled labor are declining. Furthermore, high school graduates are more likely to be employed than high school dropouts (Stern, Paik, Catterall, and Nakata, 1989), and those with higher levels of education are more likely than those with less education to receive promotions (Sicherman, 1990).

Reich (1990) reports that attempts by employers to remedy the skill deficits of employees are expensive: Approximately one-third of major U.S. corporations provide basic skills training for employees, and U.S. industry as a whole spends about $25 billion yearly on remedial education (p.204). According to the National Research Council

(1989), businesses spend as much on remedial math education for employees as is spent on math in schools and colleges (p.13).

The social costs of school failure are also high: As the recent turbulence in Los Angeles and other cities shows, vast education and economic disparities can be explosive.

Is school reform a panacea? Although there is a consensus that schools need to do a better job of preparing students for the work world, some people are concerned that academic excellence is being viewed as a panacea for economic and social ills. Apple (1990) argues that the crisis in the economy has been "exported" to the schools -- rather than holding business and industry accountable for the ailing economy, the responsibility for improving everything from employment rates to international trade competitiveness is being placed on the educational system (p.158). Perhaps there is too much of a tendency to view educational outcomes as determinants of economic progress. Comparing students' test scores nationally and internationally may tell us something about the skill levels of various population groups, yet it reveals nothing about the levels of expertise with which businesses design market strategies and draw upon the talents that workers possess.

Other researchers note that parity in educational outcomes does not necessarily translate into social equality. McClelland (1990) uses the framework provided by social reproduction theory (see Boudon, 1973) to analyze the process by which white high school seniors from different socioeconomic backgrounds form their occupational aspirations and progress towards their goals. Controlling for differences in academic abilities (as measured by test scores), a process of "cumulative advantage" appears to operate in which men and young people from upper-white-collar homes are most likely to be "on track" towards achieving the career goals they aspired to in high school. McClelland hypothesizes that privileged youngsters are more likely than youth of lower social status to be surrounded by positive images, advice, encouragement, and support.

Some people are concerned that the reform movement has emphasized job-related skills at the expense of promoting social awareness and values. Futrell (1990) states that education "must enable [students] to think complexly and creatively, to act responsibly, and -- when necessary -- to act selflessly....education must help the United States meet both economic and moral imperatives (p.264-265)." Some researchers argue that school policies, practices, and curricula must prepare students to live in a culturally diverse society (Pine and Hilliard, 1990), while some religious groups contend that a renewed emphasis on character development is required. Perhaps these concerns should be incorporated into discussions of ways of being "at risk." It may be that young people who leave school with poor behavioral and academic skills are not the only students at risk -- pleasant, productive young workers who understand "21st-century" technologies but fail to grasp the significance of social and ethical issues may also place themselves, their communities, and the nation at risk.

Where Do We Go From Here?

Past efforts to establish equity and excellence have led to major changes in U.S. education. If we compare educational attainments today to those of previous decades, we find substantial improvements in many areas. The performance of black youngsters, in particular, has improved dramatically over the years. Black dropout rates have declined sharply, and -- according to some statistics -- converge with white dropout rates when family income is held constant (New York Times, 1992). Citing data from the College Board and from the National Assessment of Education Progress, Lewis (1992) states that the great "untold story" of the past twenty years is that black youngsters have been "steadily narrowing the gap between themselves and whites in math and science proficiency....[and the] reading proficiency of blacks...is much higher than it was twenty years ago." Over the same time period, the mean scores of black students on the Scholastic Aptitude Test have increased by much larger margins than the mean scores of white students.

However, although graduation rates have improved over the years, the dropout rates for young people of color (with the exception of Asian students) are still higher than the dropout rates for white students (Ekstrom et al., 1987). The dropout rates of Latino youngsters, in particular, remain high. And although the performance of young people of color on national achievement tests has improved significantly, their average performance (with the exception of Asians) still lags far behind the average performance of white students (National Center for Educational Statistics, 1991).

So where do we go from here? Student achievement has increased, but job requirements also have risen. How do we *exceed* the educational goals that past reform efforts have found it difficult to attain? Why are so many young people failing to develop necessary skills, and what can be done to improve their performance?

In the following chapters we examine research on the effects of student background and school-related variables, and we look at strategies that may reduce risk factors and improve student performance. As this historical overview suggests, it is also important to recognize the complex, longitudinal effects that broad social forces have had and will continue to have on educational outcomes. Social dynamics influence the demands placed on schools, affect the resources children bring to the classroom, and form the varying perspectives of those involved in instruction, policy making, research, and hiring issues related to diverse young people. Thus, social dynamics shape the education that diverse children receive and structure the relation between educational attainments and social mobility. Three themes of past school reform efforts -- equity, excellence, and relevance -- continue to frame the discussion of educational reforms today. An understanding of social dynamics is essential to forecasting the "shelf-life" of current reforms, since without public support and funds, reforms quickly deteriorate. A review of education history may illuminate the causes of broad educational disparities, illustrate ways of building public support, provide insights into community perspectives, and aid the refinement of current "innovations" that share similarities with past reforms.

CHAPTER 2

STUDENT BACKGROUND

Historically, poor children and children of color have been disproportionately at risk in our schools. Media reports suggest that they are at risk because of "broken homes" and a "culture of poverty." These stereotypes persist despite new research that provides a much more complex picture of students at risk. Recent research emphasizes the ways in which schools contribute to poor student performance.

Yet we should not overlook the harm that may be caused by problems outside school, problems that may or may not be related to societal factors. In almost every school, regardless of students' race and class, teachers can identify children who underachieve because of problems beyond school walls. These children may feel that nobody cares about them. Uri Bronfenbrenner (1989) states that every child needs to have an adult who is "crazy" about them in order to develop intellectually, emotionally, socially, and morally:

> Somebody's got to be crazy about that kid, and vice-versa! But what does crazy mean? It means that the adult in question regards this particular child as somehow special...It is the illusion that comes with love -- an illusion that flows in both directions. For the child, the adult is also special.... (p.7-8).

Having a nurturing home is an essential resource for children; having a nurturing network of parents, relatives, and peers is even better; having a personal network *and* a society that is "crazy" about and supportive of children is best of all. Without this support, children become at risk. Specifically, (1) neonatal conditions, (2) quality of health, (3) family characteristics, (4) peer influences, (5) community climate and resources, and (6) social status are influenced by support networks and affect students' readiness to learn. Institutional and grassroots strategies that strengthen support networks, increase resources, and bolster the status of children may enhance their ability to take advantage of educational opportunities.

Neonatal Conditions

Children do not become at risk overnight. A small but significant percentage of children are born with conditions that place them at risk of health and developmental problems. It is hard to determine the etiology or extent of learning disorders in the population, but research indicates that between 5 and 10% of children are identified as having learning disorders when they enter school (Interagency Committee on Learning Disabilities, 1987).

Low birth weight. Very low birth weight is sometimes an indicator of developmental problems. Of the approximately 45,000 newborns with very low birth weights who are born annually, roughly 20-25% percent die in infancy (Volpe 1991, p.276). Adverse neonatal outcomes such as low birth weight might be prevented by adequate nutrition, appropriate health care, and/or changes in mothers' lifestyle (e.g., drug use) during pregnancy.

Very low birth weight babies that survive the neonatal period sometimes suffer motor or cognitive deficits that lead to learning problems in school (McCormick, Gortmaker, and Sobol, 1990). Hack et al. (1991) find that very low birth weight children with subnormal head size at eight months are at increased risk of poor cognitive function, lower academic achievement, and abnormal behavior at eight years of age.

Drug exposure. The problems of cocaine-exposed children have been documented by researchers (e.g., Chasnoff et al., 1985) and sensationalized in the media as the crisis of "crack babies." Some cocaine-exposed children have severe mental and physical disabilities, while others show delays in language development or problems in concentrating:

> At a special kindergarten class...a five-year-old named Billie seems the picture of perfect health and disposition...Suddenly Billie's face clouds over. For no apparent reason, he throws [his lesson] down on the floor....The teacher tries to get the lesson back on track, but Billie is quickly distracted....Within seconds, he is off his chair and running around (Toufexis, 1991, p.56).

New findings suggest that cocaine-exposure does not always lead to developmental problems -- most children exposed to cocaine test within the normal developmental range without the help of treatment (Viadero, 1992). Media reports that suggest infants exposed to cocaine are "doomed" overstate the problem and stigmatize these children -- even cocaine-exposed children who show signs of poor health and developmental delay may improve with the help of early intervention programs. However, these treatment programs can be expensive (Chasnoff, 1991; Phibbs, Bateman, and Schwartz, 1991).

How many children are born at risk due to drug exposure? No one knows for sure. While the media have focused on "crack babies," it is less well publicized that maternal use of other drugs (e.g., cigarettes, alcohol, prescription drugs, marijuana) may also harm fetal growth and development, resulting in academic, behavioral, and health problems (Bauchner 1989; Hingson et al., 1982; Jacobs, 1991; Kline, Stein, and Hutzler, 1987; Zuckerman et al., 1989). Some studies indicate that 375,000 newborns are exposed to illicit drugs *in uterus* each year, but many more cases of drug-exposure, including use of alcohol and cigarettes, probably go undetected (Chasnoff, 1991, p.1567).

Are infants from particular social backgrounds at higher risk for prenatal drug exposure? Again, no one knows for sure about the rates of drug use by expectant mothers. Research by Chasnoff, Landress, and Barrett (1990) suggests that the prevalence of drug use among pregnant whites may be underreported and similar to that of pregnant blacks. Over a six-month period, a comparison of the urine samples of pregnant women in a Florida county revealed that the rate of drug use among white women (15.4%) was similar to that of black women (14.1%). Black women more frequently tested positive for cocaine use, while white women more frequently tested positive for marijuana. By law in Florida, all mothers known to have used alcohol or illicit drugs during pregnancy must be reported to health authorities -- however, black women were reported at a rate ten times higher than white women. Why the difference in reported rates? Chasnoff et al. conjecture that, among other reasons, physicians may be more reluctant to report drug use by white private patients than to report black public clinic patients. Also, differences in physicians' perceptions of the severity of cocaine vs. marijuana use may explain reporting differences. Comparisons of drug use by race may be misleading. For example, in one study, once respondents were grouped into neighborhood clusters, the prevalence of crack use did not differ significantly for blacks, Latinos, and whites (Lillie-Blanton, Anthony, and Schuster, 1993).

Poverty and neonatal health. Poverty is significantly related to poor neonatal health. In a longitudinal study of newborns in an eight county area of California, Braveman et al. (1989) find that lack of insurance is associated with higher rates of adverse neonatal outcomes (including low birth weight) in uninsured black, Latino, and Asian infants relative to insured white newborns. The greater the poverty, the greater the risk -- homeless women are less likely than other low income women to receive adequate prenatal care and more likely to deliver a baby of low birth weight (Chavkin et al. 1987). The observed problems of drug-exposed infants may be caused in part by factors associated with poverty (Linn et al., 1983; Mayes et al., 1992; Viadero, 1992). Earlier studies that found severe "crack" effects may not have adequately controlled for complicating factors associated with poverty (e.g., poor maternal nutrition) that pose a threat to many impoverished children and may contribute to the health problems of infants exposed to cocaine.

Quality of Health

Poor health and untreated physical conditions may slow a child's academic progress. Recurrent illness, for example, may interfere with attentiveness and attendance, and vision or hearing problems may make class participation difficult. Chronic malnutrition may result in iron deficiency, which is correlated with fatigue and decreased attentiveness in children (Carter, 1983), and lead poisoning from exposure to household and environmental hazards is associated with learning disorders (Marlowe et al., 1982; Needleman et al., 1979).

Rural children, low-income children, and non-white children have less access to health care than their urban, high-income, white counterparts, although they are at higher risk for health-related problems (Aday and Andersen, 1984). For example, many researchers attribute the deadly resurgence of measles and tuberculosis among the poor to a lack of affordable, accessible health care and crowded, unsanitary housing. In addition, due to hazardous and polluted surroundings, inner city children may be at increased risk of lead exposure (Mielke et al., 1983), and homeless children in particular are at high risk for a variety of health problems, including elevated lead levels (Alperstein, Rappaport, and Flanigan, 1988) and tuberculosis (Centers for Disease Control, 1985).

Family Characteristics

Family structure. Although it is widely believed that children from "broken homes" have a higher incidence of academic and emotional/behavioral problems than other children, research findings are mixed. An analysis of the 1986 NAEP data indicates that third graders living with one parent scored considerably lower than third-graders living with both parents (Natriello, McDill, and Pallas, 1990, p.23). Similarly, analyzing data from *High School and Beyond*, Ekstrom et al. (1987) find a significant correlation between single-parent homes and dropout for whites and Hispanics (but not for blacks). And babies born to unmarried teens appear more likely to experience adverse health- and education-related outcomes than babies born to older mothers (Brooks-Gunn and Furstenburg, 1986). Children of divorce may suffer emotional problems due to the stress of family break-up (Wallerstein and Kelly, 1980). Father absence is often viewed as especially harmful to the self-esteem and emotional development of male children (for a discussion, see Lamb, 1981). For example, divorce may have a more severe and enduring impact on sons than daughters (Hetherington, Fetherman, and Camara, 1981). And young black males in father-absent homes may be more likely than other youth to join gangs (Biller, 1971).

Other studies show no significant relation or, perhaps surprisingly, a negative relation between "broken" homes and academic or emotional problems. In a comparison of the characteristics of children rated as "high risk" and "at risk" based on teachers' evaluations, Larson (1989) finds that there is no significant relation between family "intactness" and degree of risk for educational failure. In fact, in Larson's study, low-income children with divorced parents are somewhat *less* likely than low-income children from "intact" homes to be rated as high risk (p.22).

Similarly, contradicting the findings of Ekstrom et al. (1987) described above, a more recent analysis of *High School And Beyond* data indicates that the effect of father absence on dropout is nil for all gender/ethnic groups except for non-Hispanic white females, who are significantly *more* likely to drop out if a father is present in the home (Fernandez, Paulsen, and Hirano-Nakanishi, 1989, p.39). Several studies have also suggested that family atmosphere rather than family composition is most predictive of dropout (e.g., Stroup and Robins, 1972).

Anecdotal comparisons of children from "intact" and single-parent homes may be biased. Guttman, Geva, and Gefen (1988) find that teachers and students are more likely to report that the child shown in a film exhibits academic, social, and emotional problems if they are told the child's parents are divorced than if they are told the child comes from an "intact" home. As Guttman, Geva, and Gefen warn, stereotypes about "broken homes" may adversely affect children: Well-adjusted children from healthy single-parent homes may "live down" to the low academic expectations of school staff. And troubled children from single-parent homes may have their emotional problems falsely attributed to their family structure, while the actual source of their difficulties -- which may be centered in parenting practices, neighborhood environment, or school climate -- may never be identified and addressed.

Does family structure influence achievement? It makes intuitive sense that (holding parenting skills, support systems, and other background factors constant) two-parent homes might tend to offer more resources, role models, and adult supervision than single-parent homes. And it appears obvious that adolescents should delay parenthood until they are ready for childrearing responsibilities. However, we should be cautious about making generalizations about the severe effects of single-parenthood or divorce on children. Many researchers may fail to control adequately for the influence of parental education, age, or socioeconomic status, and they may fail to consider the impact of stigma. Furthermore, we must keep in mind that "non-two-parent household" refers to a variety of family configurations that range from foster care placements to isolated single-parent families to single-parent families connected to -- and sometimes living with -- multi-generational networks of relatives. Thus, comparisons of the effects of two-parent and non-two-parent households on children may lead to dubious and imprecise results.

Extended family and friends. We do not mean to suggest that childrearing by an isolated, overwhelmed adult is the ideal parenting situation for children. On the contrary, research suggests that a stable, supportive adult network is important to parenting and child development. However, two-parent households are not always stable and supportive, and single-parent households are not always isolated and overwhelmed. The support of friends and extended family may help bolster the resilience and resources of both single-parent and two-parent families.

Outings with adult male relatives may positively influence the academic performance of male students from single-parent (mother-only) homes (Riley and Cochran, 1987). And the support of family and friends may lessen the impact of divorce, loss of job, or changes in health on mothers' ability to provide a warm, interesting home environment to their infants (Pascoe and Earp, 1984). However, if extended family ties drain resources such as living space, food, and parental attention from children, these ties may in some cases place children at risk: Some studies suggest that high-risk students are more likely than other youth to live in homes with numerous relatives and non-relatives (e.g., Larson, 1989, p.22).

Severe abuse/neglect. Family interactions are probably more important than family composition in child development. Children who have suffered physical or sexual abuse are much more likely to exhibit depression or antisocial behavior. Self-destructive acts such as hair pulling, head banging, and self-cutting are often indicators of severe abuse or neglect (Green, 1978).

Infants whose parents lack warmth and stability and fail to provide educational stimulation (e.g., teaching the child new words) are at risk of learning and emotional problems (Werner and Smith, 1982, p.24-35). Infants who suffer from neglect may also be at risk of health and developmental problems (Kempe and Goldbloom, 1987, pp. 312-335). In a longitudinal study examining the relation between risk factors and behavioral problems in young children (N=190), Sroufe and Egeland (1989) find that parental neglect/abuse of infants is related to the development of aggression, withdrawal, and hyperactivity in the pre-school and elementary years.

Although many severely abused children become remarkably well-adjusted adults, battering places children at increased risk of life-long emotional/behavioral problems, impaired intellectual functioning, and permanent physical or neurological damage (Elmer and Gregg, 1967; Martin and Elmer, 1992; Perry et al., 1983). In a longitudinal study of battered children (N=19), Martin and Elmer (1992) report that severely abused children develop relatively high rates of drug use. Adults sexually abused as children may exhibit sexual dysfunction, suicidal behavior, and difficulty establishing healthy relationships (Gelinas, 1983).

Child abuse rates appear higher among the poor than the middle class and wealthy. However, no one knows the actual rates of child abuse. Parents and children may be reluctant to describe instances of abuse, and hospitals may be reluctant to report abusive parents with high socioeconomic status (Hampton and Newberger, 1985). Many child abuse studies have had disproportionate percentages of poor families in their samples, thus it is often difficult to untangle parental abuse/neglect effects from poverty effects. Some of the developmental problems attributed to parental misconduct may be caused by poverty (e.g., poor nutrition, high mobility, unsafe surroundings).

Some studies suggest that sick or disabled children are also somewhat more likely to suffer parental abuse or neglect. For example, weak, fretful infants may be less likely than healthy, responsive babies to attract positive parental attention (Steele, 1987, pp. 97-98; Werner and Smith, 1982, pp.31-33, 56-59).

Child abuse and welfare services are often overwhelmed with the number of children that need assistance, thus many cases of severe abuse/neglect may be inadequately investigated and addressed (Barth and Berry, 1989; Dugger, 1992a). Due to limited resources for monitoring and follow-up, interventions such as foster care placements may, in some cases, actually increase the danger of bodily or emotional harm (Dugger, 1992b).

Negative family climate. Battered and abandoned children are the most obvious, but not the only, victims of harmful home environments. Chapin and Vito (1988) find that family interaction styles on the extreme ends of cohesion and adaptability (i.e., either too much or too little "togetherness" or too many or too few rules) are significantly related to academic or emotional/behavioral problems.

Family climate may also play a role in substance abuse. Harkins, Linney, and Forman (1989) find that low family cohesion, high conflict, a high incidence of deaths and divorce in the family, and parent's permissive views of alcohol use characterize the families of youth at high risk for substance abuse. Other researchers find a strong correlation between youths' alcohol use and the drinking habits of their parents and siblings (Onestak, Forman, and Linney, 1989).

The stress of living with a parent suffering from anxiety or mental illness may also place children at risk of emotional or developmental problems (Ghodsian, Zajicek, and Wolkind, 1984). Poverty often places incredible stresses on low-income parents, thus poor children may be somewhat more likely to live with a parent suffering from anxiety or depression. Analyzing data collected in an urban pediatric center, Orr and James (1984) find that over 50% of low-income, black, single mothers who live alone with their children suffer from depression. This finding confirms other reports of high depression rates among black women and low-income women (Molnar, 1988, as cited in Molnar, Rath, and Klein, 1990, p.115; Belle, 1982; Pearlin and Johnson, 1977).

Effective parenting practices. What family characteristics are associated with the development of strong academic and behavioral skills? In a study of young people from low-income black homes with varying family structures, Clark (1983) finds that the parents of high academic achievers set firm but not harsh rules, seek information about their children's academic progress, enhance literacy skills through activities such as reading and word games, and model an optimistic, assertive approach to life. In Clark's study, the two-parent and single-parent families that had these attributes produced higher achieving students, while the two-parent and single-parent families that lacked these characteristics produced less successful students. Similarly, Goldenberg (1989) describes how assertive parent involvement may significantly influence student achievement. Over the course of Goldenberg's case study, the children who improved their reading skills received encouragement and/or home tutoring from their parents.

Peer Influences

Negative peer influences. Peer pressures against excelling in school may increase as children grow older. Young people who desire to excel academically may feel pressured to underachieve in order to "fit in" with peers who do not believe academic success is for "people like us" (Kunjufu, 1988). Conformity to peer pressures may restrict academic engagement:

> Marta (Mexican), described by one of her teachers as "brilliant," had mixed feelings about going to college....Her friends did not offer encouragement.... [S]he stopped going to the meetings [of an enrichment program that encourages young people of color to go to college] because they took place during lunch and her friends urged her to join them instead (Semons, 1989, p.11-12).

Peer influences may also push youth toward drug use and other detrimental behaviors. In a study of students in grades 6 through 12 (N=1,340), Dielman, Shope, and Butchart (1990) find a stronger direct correlation between peer influences and students' alcohol use than parental influences and students' alcohol use. A study by Lewis and Lewis (1984) indicates that peer pressures to engage in risk-taking behaviors (e.g., fights, "daredevil" stunts, stealing, drug use, sexual acts) increases as children enter adolescence, while the levels of resistance to peer pressure may decline.

Positive peer influences. Yet peer pressures are not always detrimental. Similar to adults, adolescents respond in varying ways to the stresses and opportunities they perceive in their environment (Ianni, 1989). If young people see value in academic success, peer pressures may encourage academic effort. Seeing peers successfully tackle classroom assignments may bolster children's confidence in their own abilities (Schunk and Hanson, 1985). Peers may also buffer stresses, providing crucial emotional support for troubled youth (Stanley and Barter, 1970). Instead of searching for ways to minimize peer influences, it may be useful to study ways of encouraging and building upon the positive aspects of peer cohesiveness and mutual support. When schools fail to build peer support for academic success, the ostracization of high achievers may cause psychosocial harm (Fordham, 1988). Withdrawn, isolated young people are not as conspicuously in danger as gang members, but they may be just as much at risk of self-destructive behavior.

Community Climate and Resources

Poor communities, especially those in the inner cities, are often stereotyped as uniformly blighted and dangerous. However, in spite of the poverty of these communities, many residents attempt to provide safe, attractive environments for children. In even the poorest inner cities, there are often pleasant streets with well-maintained buildings and concerned neighbors. As one resident of a low-income community states, "There's nothing wrong with the people that's living up here, [but] other people think...you [better not] come here because if you do.... you're liable to have this or that done to you (Brantlinger, 1985)."

Dangers of urban life. However, it is true that many sections of inner cities are unsafe for children:

> From illegal waste dumps to scores of deserted buildings with wide open windows and doorways and sagging fire escapes, this neighborhood appears to offer more dangers than sanctuaries for young children....The spray-painted graffiti of pitchforks and stars on many buildings testify to the power and prevalence of street gangs (Littel and Wynn 1989, p.21)

Chronic stress is a part of daily life in some inner cities. As Halpern (1991) notes, "[Children] in some neighborhoods face the possibility of walking into danger on every trip to and from school, and on every trip up and down the stairs of their apartment building (p.7)." Many inner-city children reside in neighborhoods so crime-ridden it is dangerous to play outside (Kotlowitz, 1991; Zinsmeister, 1990). Adult leadership in these communities may be ineffective and disorganized, and in the absence of parental authority young people may seek protection, camaraderie, and "career opportunities" in gangs and the drug trade. The murder rate for young black men in these communities is so high that Gibbs (1988) refers to them as an "endangered species." Alternatives to street life may appear slim: Littel and Wynn (1989) find that young people in a black, inner-city community have fewer programs and a narrower range of activities to participate in than do young people in a nearby white, suburban community. As a result, they may have fewer opportunities to receive adult supervision, explore their interests, learn about a variety of career options, enhance skills, demonstrate competency, and feel a sense of belonging.

Poor rural communities. Although poor rural areas usually lack the level of violence characteristic of some inner cities, they also may be discouraging, hostile environments for children. Research indicates that alcoholism, unemployment, illiteracy, welfare dependency, law-breaking, depression, and family violence are major problems in these communities (Auletta, 1982). Recreational and educational opportunities for rural youths and adults are often limited. As one rural resident states, "The only thing around here is a bowling alley and a lot of beer joints (Auletta, 1982, p.162)."

Declining economic status. The declining economies of many rural and urban areas may intensify community problems (Heffernan and Heffernan, 1986, as cited in Green and Schneider, 1990). During the 1980s, the earnings of young, non-college-educated males fell sharply, and many young families slipped below the poverty line (Grant Foundation Commission, 1988, p.18). Affordable housing has become increasingly difficult to locate, thus many young families have been forced into inadequate dwellings (pp.28-29). Inadequate shelter -- or not having a home at all -- may increase accidents, disease, and delinquency among children and youth (Gibbs, 1988, p. 249).

Social Status

Being a child is to be of low status. As Katz (1988) points out, if children were not considered low status, calling a grown woman a "girl" or a black man a "boy" would not be regarded as insults (p.194). Yet children know that eventually they will grow up and have the same rights as the adults they now must obey. However, some young people also recognize that because of some distinguishing characteristic about them -- their race or their gender or some other attribute -- they may be viewed as less capable, less intelligent, less virtuous and, as a result of this bias, they may be treated by some people as "less than" for their entire lives.

Involuntary minorities. Ogbu (1978) argues that "caste" or involuntary minorities -- ethnic or racial groups drawn into the social order against their will and traditionally discriminated against -- develop patterns of low academic achievement because of biases in the social structure and in employment opportunities. For a variety of reasons, including discrimination, even when the educational attainments of involuntary minorities are the same as those of whites, they often do not achieve the same degree of success in college and the job market (Braddock and McPartland, 1987; Steele, 1992; *Urban Institute*, 1991a). Some young people of color see little reason to exert effort in the classroom because they do not believe their efforts will increase their chances for upward mobility.

In addition to perceiving limited job opportunities, some young people of color may underachieve because they have internalized racist views of their abilities or, tiring of the pressure to refute racist devaluations, they may "disidentify" with academic achievement:

> Tragically, such devaluation can seem inescapable. Sooner or later it forces on its victims two painful realizations. The first is that society is preconditioned to see the worst in them. The second is that even if a black student achieves exoneration in one setting...this approval will have to be re[-]won in the next classroom, in the next level of schooling (Steele, 1992, p.74).

Some young people achieve academic excellence in spite of limited societal expectations; others attempt to accomplish only as much as is expected for someone of their social status; and a few become so alienated they drop out of school and may pose a threat to themselves or others. Huffine (1989) attributes the high rates of suicide among young American Indians and Mexican-Americans in the Southwest to "loose and uncertain social integration" -- they do not feel that they "fit" in their traditional culture or in the larger society (p.2-59). Less dramatically, alienation may lead to disengagement from school for some American Indian young people (McCarty, 1971).

Immigrants. Children of color whose parents are recent immigrants to America may not experience the same biases as other young people of color but they may also feel alienated (Huang, 1990; Olsen, 1988). Southeast Asian immigrant children, for example, tend not to be stereotyped in the same ways as other young people of color and usually adjust well to U.S. society. Unlike many young people of color, children from Southeast Asia do not experience racist devaluation of their intellectual potential. However, similar to native-born children of color, some Southeast Asian immigrant youth suffer alienation that may lead to academic or behavioral problems. Ridiculed and harassed for being newcomers (and potential competitors), many of these young people must face constant assaults by their classmates:

> I wish that I was born here and nobody would fight me and

> beat me up...I want to tell them that if they...were afraid of being caught and killed and lost their sisters, they might feel like me, they might look like me, and they, too, might find themselves in a new country (Olsen, 1988, p.35).

Asian youth who have lost close family members, were physically or sexually abused during the migration process, and/or settle in areas in which there are few if any residents from Southeast Asia are more susceptible to feelings of alienation and are at much higher risk of school problems, depression, and violent antisocial behavior (Huang, 1990; Nidorf, 1985). A Southeast Asian youth describes the attraction of gangs:

> Gangs allow us to identify with something....Americans look at us as "other." Our parents don't understand us. So where do we get that (belonging)? From our friends (Suryaraman, 1991).

Other low status groups. In recent years, researchers have increasingly drawn parallels between the tendency for some young people of color to become academically disengaged and the school experiences of female students, young people with disabilities, and gay students. The parallels are interesting because they suggest that low social status may negatively impact student performance regardless of economic status.

Some researchers, for example, argue that female students are discouraged from pursuing male-dominated professions, so many young women see no reason to excel in subjects (e.g., math and science) required for these professions (Chester, 1983; Earle, Roach, and Fraser, 1987; Noddings, 1992). Ekstrom et al. (1987) find that young women who drop out are more likely to agree with such statements as "Most women are happiest when making a home" and "It is usually better if the man is the achiever and the woman takes care of the home" than are young women who choose to stay in school (p.58).

Similarly, as a result of bias, young people with disabilities may be steered towards careers beneath their abilities. Instead of expecting and encouraging children with disabilities to use their talents, people may focus on their limitations and restrict the educational opportunities offered to these children (Biklen, 1989). Too often, people pity children with disabilities and view them as burdens on their families and society without "any consideration of the possible contributions, benefits, or pleasures" these children may provide (Fine and Asch, 1988, p.15). As a result, many people with disabilities view prejudice and discrimination, rather than their functional limitations, as the primary barriers to their aspirations (Hahn, 1988).

Citing research that indicates gay students are more likely than other youth to attempt suicide, to abuse drugs or alcohol, and to experience academic problems as a result of harassment and low social status, some researchers argue that these young people should also be identified as "at risk" and provided with supportive services (Harry, 1989; Rofes, 1989; Sears, 1991; Uribe and Harbeck, 1992).

Strategies to Reduce Environmental Risks

Various strategies involving school, business, social service, and community-based organizations have been suggested to reduce environmental risks (see, for example, Grant Foundation Commission, 1988; Heath and McLaughlin, 1989; Meyers and Bernier, 1987; Woodson, 1989). Notable in the literature is a shift away from a single-minded focus on crisis intervention to an emphasis on preventive or developmental services that bolster families and address multiple needs (e.g., Heath and McLaughlin, 1989). Specific strategies to reduce environmental risk factors are discussed below. While many of these strategies may center on schools or involve collaborations between schools and communities, others may require fundamental changes in social services and society.

Prenatal care, health, and nutrition programs. Proposals to improve the health of poor children include expansion of prenatal care and drug treatment programs for poor women, improved availability of immunization against childhood diseases, comprehensive health clinics for school-aged children in low income areas, school-based teen health clinics, expansion and improvement of children's mental health care, and universal health coverage (e.g., Chasnoff, 1991; Children's Defense Fund, 1986; Connor, 1988; Gibbs, 1988; Peter, 1992). Some argue that school-based teen health clinics should offer contraceptives and/or information about family planning and sexually transmitted diseases.

Other recommendations include an extension of food stamp benefits to all eligible families and an expansion of the school lunch program (see Gibbs, 1988, pp.248-249). A controversial proposal to improve poor families' nutrition is to eliminate food stamps and incorporate a family food allotment into a minimum guaranteed family income plan (p. 248). Proponents argue that such a plan would bolster the self-esteem of families by removing the stigma of using food stamps.

Improvement in living conditions. Recommendations to improve the living conditions of poor children include increasing the availability of low income housing, making home ownership more accessible to poor families, reducing the density of urban residences, and strictly enforcing building safety codes (e.g., Gibbs, 1988, p. 249-250). Also, policy-makers must address the needs of homeless children, including those of homeless teens who have run away or been thrown out of their homes due to family stress, abuse, neglect, drug use, disputes over discipline, or conflicts over sexual activity or sexual orientation (Sartain, 1989). To reach these youth, who often turn to prostitution or other street crimes to survive, the quality and quantity of youth shelters and counseling must be improved. Due to the diversity of homeless teens, outreach must be targeted to address specific needs. (For a discussion of the issues that schools must address to help homeless children, see Chapter 3.)

Strengthening families and preventing abuse. Many parents may wish to provide a better home life for their children, but they may not have the skills or support to be effective parents. To improve parenting skills, some recommend expansion of parent education and child abuse prevention programs (e.g., Grant Foundation Commission, 1988; Rich, 1987). Schools and community centers may serve as the sites for parent education classes. Also, to ensure a safe and stimulating environment for very young children, some recommend a home health visitor program for all first-time parents with newborns -- if funds for a broad-based program are unavailable, a targeted program for high risk parents should be a priority (Helfer, 1987). To raise public awareness about child endangerment issues, many child advocates recommend media campaigns.

To boost the involvement of fathers in parenting, diverse recommendations include stricter enforcement of child support laws, public service messages showing fathers working with children, social service policies that promote rather than penalize two-parent households, and parenting and employment programs targeted toward teen fathers (e.g., Connor, 1988; Grant Foundation Commission, 1988; Rich, 1987). Schools traditionally have focused on the needs of teen mothers, yet young fathers may also require guidance from school counselors (Connor, 1988). Also, they may need flexible scheduling so they can care for their child or work. Rap groups staffed by male role models may also be helpful to young fathers.

Some parents may have good parenting skills, but they may lack the time, resources, or support to provide adequate child supervision. Some researchers recommend that workplaces offer expanded flextime and family leave so that parents can spend more time with their children (Grant Foundation Commission, 1988, p. 47). Also, groups such as Parents Without Partners can be encouraged so that single-parent families may offer mutual aid to each other (Rich, 1987, p. 29).

Youth programs, mediating structures, and integrated services. Youth programs, grassroots groups, and informal social networks (e.g., concerned, mutually supportive neighbors) may serve as "mediating structures" that protect young people from the risks of living in poor communities (Woodson, 1989). Social support may strengthen family resilience, increase young people's access to support and guidance, encourage adolescents' investment in constructive pursuits, and foster talent development (Dunst et al., 1986; Murray-Nettles, 1989; Pascoe and Earp, 1984; Saulnier and Rowland, 1985; Shonkoff, 1984; Stanton-Salazar, 1990). Especially in poor areas with large numbers of single parent families, school-based programs that provide before- and after-school care are much needed, giving children a safe place to be while their parents work (see U.S. Department of Education, 1993).

Youth programs, however, must be careful not to stigmatize participants. In middle-class areas, youth programs are often viewed as opportunities to encourage and develop children's talents. In poor areas, youth programs are frequently thought of as interventions to discourage involvement with drugs or crime -- although many participants may have never considered becoming involved in illegal activities (Littel and Wynn, 1989, p.26). Children may receive a hidden message from these programs that, because of the color of their skin or where they live, little is expected of them. Success may be negatively defined or attributed to the intervention or both -- if the participants don't grow up to become thugs, the program is a success.

In addition to expanding the availability and quality of youth programs, many people recommend increasing collaborative efforts among support providers. For example, Rich (1988) suggests that seed money grants be given to teachers to develop local school/community educational networks. Also, workplaces and community groups such as the NAACP, PTA, and AARP should be encouraged to join with teachers to provide counseling, dropout prevention, and apprenticeship programs for children (p. 32).

Community development and social change. Many people argue that the problems threatening poor children will not be resolved until the underlying social conditions that breed these problems are addressed. Some attribute much of the deterioration of our urban areas to the declining sense of community and loss of values among residents (e.g., Gardner, 1991). Others note the impact that sluggish economic growth, loss of manufacturing jobs, and inadequate training opportunities have on young people and their families. Also, especially after the recent urban disturbances, some argue that racism and racial divisiveness must be addressed. To confront these underlying social problems, ambitious, wide-scale, and highly controversial programs recently have been launched in many cities (Atlanta Project, 1992; Rebuild LA, 1993). Numerous other policies and programs have been suggested at the federal, state, and local levels. Although there are wide divergences among these plans -- and sharp disagreement about their efficacy -- they tend to share common themes of "community empowerment" and "business/community collaborations." Encouraging volunteerism among youth and developing young people's skills are also often prominent features of these programs, thus many of these programs (e.g., Atlanta Project) seek collaborations with schools.

The above discussion of environmental risk factors is not meant to suggest that schools can do little to raise the performance of poor children. Although all students would benefit from an improvement in their home or community environment, most students at risk do not suffer from the severe problems (e.g., child abuse or neglect; homelessness) that may require intensive interventions involving outside agencies. Thus, school reform is not dependent on social service improvements. However, we note that the success of educational strategies targeted at students with severe and, in some cases, life-threatening problems may depend on the quality of external resources. School reforms involving an integrated service approach, for example, may be less effective than desired if children are referred to overwhelmed, resource-poor outside agencies. As noted above, increased collaborations with parent, business, and grassroots groups and/or increased funding may improve the resources available to schools and children.

CHAPTER 3

SCHOOL ENVIRONMENT

According to Bronfenbrenner (1989), young people need to have adults who are "crazy" about them. Unfortunately, in our most troubled schools teachers aren't crazy about students, and students aren't crazy about teachers -- instead, they are *driving* each other crazy. In these schools, support networks are weak or nonexistent for both children and teachers. Teachers may resent what they perceive as inadequate encouragement, assistance, and resources to do their job. Students may feel that nobody at school knows or cares about them.

What can be done to change these schools into caring, productive places that children and teachers enjoy coming to every day? The school effects literature describes numerous factors that may enhance the school environment, including effective principal leadership, a safe and orderly setting, engaging extracurricular activities, reductions in the size and impersonality of schools, and educational programs designed to fit the unique needs of specific students and school contexts (Teddlie and Stringfield, 1993; Bryk and Thum, 1989; Comer, 1988; Eberts and Stone, 1988; Gottfredson and Gottfredson, 1985; Landers and Landers, 1978). Sections II and III of this monograph provide a comprehensive analysis of policies and programs targeted at low-income children, so we do not detail these strategies here.

Instead, in this chapter we explore the ways in which the interactions of students and teachers -- and the relevance and rigor of curriculum -- may influence school climate. Also, we examine the resources available to schools. School climate and resources may significantly impact schools' "readiness to teach" the rich diversity of children in our schools.

School Climate

School climate is often as palpable as the weather. Some schools have a warm, friendly ambience, while others have a cold, foreboding environment that permeates classrooms and offices. It seems probable that school and classroom climate would influence student performance, and the research to date supports this conclusion (e.g., Hill, Foster, and Gendler, 1990; Fraser and Fisher, 1982; Moos, 1979).

To provide a warm school climate, school administration and support services in poor areas must be especially sensitive to the needs of students with responsibilities or problems outside school (e.g., working students, teen mothers). Unfortunately, school climates are often inhospitable to these students. Teen mothers, for example, may be refused excused absences for prenatal/postnatal care, tracked into specific courses, and discouraged from full participation in extracurricular activities (Snider, 1989). And students with emotional problems may never have their difficulties treated because many schools have inadequate psychological services (Tuma, 1989). Even when counseling services are available, children of color may not have access to counselors who are sensitive to multicultural concerns (Gibbs, Huang et al., 1990).

Guidance counseling also may be inadequate. Suarez-Orozco (1989) reports that many Central American refugee children may be inappropriately tracked into vocational classes because counselors assume they are not "college material." Although many Central American refugee children have successfully completed advanced math courses in their home countries, counselors may uniformly assign all of these children to entry-level courses. Inappropriate class assignments may be exacerbated in overcrowded inner city schools because counselors may have little time to determine individual students' strengths and weaknesses. Also, counselors may have had little training related to the needs of ethnolinguistically diverse children (Christensen, 1992).

Highly mobile students may particularly suffer from inadequate administrative and support practices. Migrant children, for example, may lose academic credits or experience delays in enrollment due to lack of communication and coordination between schools. School staff may be unaware of migrant students' needs and may fail to provide adequate guidance. Consequently, migrant children's academic progress may suffer, discouraging student persistence (Morse, 1988; Phillips, 1985).

Homeless children may suffer similar difficulties in school. These children face an array of problems that may interfere with learning and attendance: poor nutrition, lack of a quiet place to study, inadequate clothes and school supplies, dangerous surroundings, peer ridicule, and the stress of constant moves. Schools are often not prepared to address these problems. Homeless children may have difficulties enrolling in school because they lack prerequisite records or a permanent address, and once in school they may not receive adequate encouragement and assistance (Molnar, Rath, and Klein, 1990; Nichols-Pierce, 1992).

Instructional practices and materials. If instruction fails to engage and challenge students, classroom climate and intellectual development may suffer. Teachers may spend most of their time demanding attentiveness or trying to maintain order. The entire class -- including the teacher -- may watch the clock, longing to be put out of their misery. Teacher burnout and student disciplinary/attendance problems are likely outcomes.

Interest is a significant determinant of how people attend to and persist in processing information (for a review of research, see Hidi, 1990). Children are more likely to learn material that stimulates their interest. The lack of active learning experiences may help explain why students' interest in challenging subjects tends to decline. A survey of black seventh graders' science interests finds that although most students express curiosity about various science topics, and show strong interest in science discussions, field trips, and experiments, they report that they never or seldom have input into selecting class topics or projects (Anderson, Pruitt, and Courtney, 1989). Reyes and Laliberty (1992) hypothesize that the limited literacy skills of many Hispanic children may result from their assignment to classes that emphasize basic skills and passive learning rather than cultivating higher order proficiencies. According to these researchers, the "basic skills" approach to teaching literacy "dooms" students to a curriculum that lacks interest and relevance (p.264). Consequently, students have little motivation to learn.

Other studies suggest that active learning in combination with "scaffolding" (building upon the cultural knowledge that children bring to the classroom) may enhance the learning of young people of color (Guitierrez, 1992; Lee, 1992; Peterson, 1991). Analyzing the effects of scaffolding on black students, Lee (1992) compares the pre- and post-test results of students who received traditional reading instruction and students who participated in an innovative reading program that drew upon African American culture. Lee reports that the students in the innovative program achieved statistically significant reading skills gains three times as great as the control students.

To stimulate student interest and build upon the "cultural capital" that students bring into the classroom, Barrera (1992) argues that classroom texts must authentically reflect the culture(s) of the students:

> Based on recent statistics...it can be estimated that minority writers (African American, Hispanic, and Asian American) accounted for only about 2% of the authors of the 5,000 children's trade books published in the United States in 1988....How authentic is the literature about diverse peoples when their own voices and perspectives are not included...? (p.237)

Wynter (1992) argues that the lack of authentic, positive representations of people of color in textbooks "demotivates" children of color and leads to poor student performance. She asserts that even in recent history textbooks, which are "vastly improved" compared to the history textbooks of the past, children of color are taught to disidentify with their own racial groups and to identify with the perspectives of those who oppressed their ancestors (pp.66-68). Price (1992) suggests that divergent historical perspectives be posed to children as an exercise in inquiry-based learning:

> Why is it even necessary to present all history as settled truth?.... Instead of asking children to absorb history, challenge them to "do" history. Teach them how to ferret out primary sources, weigh evidence, critique arguments, and formulate their own views. This learning process would be a prelude to the kinds of judgments they will be called on to make as adults (p. 210).

(For a discussion of the multicultural debate, see Chapter 8, this volume).

How can teachers facilitate cultural and individual expressiveness while discouraging divisiveness? Cooperative learning has been proposed as a way of enhancing academic engagement and fostering positive relations between students of diverse backgrounds (Slavin, 1990; Cohen, 1984; Skon, Johnson, and Johnson, 1981). In cooperative settings, group efforts are rewarded, thus students have an incentive to resolve differences and work together.

At any rate, complete harmony among students and teachers is not a likely outcome of student engagement -- indeed, one of the definitions of "engagement" is to enter into conflict. The expression of intellectual differences between students and teachers can stimulate curiosity, improve reasoning skills, and enhance creativity (Johnson and Johnson, 1979). Conflict in the classroom can be constructive if it occurs within a structured learning environment in which problem-solving, rather than personal attack, is the goal (pp.61-62).

Academic standards. In an ethnographic study that hired high school students at risk of dropping out to work as collaborators, Farrell et al. (1988) report that "pressure and boredom" are most often mentioned by students as negative aspects of the school environment. As explained by an interviewee, the pressure to meet academic standards that seem unattainable may lead to disengagement and dropout:

> Like sometimes the teacher might get on the back of a student so much that the student doesn't want to do the work....when he sees his grade, he's "you mean I'm doing all this effort for nothin'? I'd rather not come to school." (Farrell et al., 1988, p.497)

With no incentive to exert effort in the classroom, school becomes increasingly irrelevant and boring, while peer pressure becomes increasingly important. Peer loyalty has a payoff -- mutual assistance and emotional support -- while attempting to conform to school pressure does not appear to be rewarded. McDill, Natriello, and Pallas (1986) warn that the reform movement's push towards raising academic standards may place more students at risk. If students are not given opportunities to experience academic success, they may become disengaged and dropout.

However, if schools are too accommodating to low performance, they may limit the usefulness of school attendance. Continuation schools, for example, may be more responsive to students' needs (e.g., offering daycare to young mothers) and thus often may be more attractive to students than comprehensive schools -- however, they may offer limited opportunities for academic challenge (Kelly, 1989). Studying a school that has a lower dropout rate than would have been predicted by its demographics, Miller, Leinhardt, and Zigmond (1988) find that the school's warm, accommodating environment enhances engagement and thus increases the school's holding power -- but it does not encourage achievement. Minimal effort is rewarded; students are rarely challenged academically. Students can receive passing grades just for turning in assignments -- the quality of the work is not emphasized. One student comments, "[in] English...he just marks down how many [assignments] we got done for the whole year...he'll never know if we got them wrong...I like that a lot because I don't care (p.746)."

Intergroup relations. When school climates fail to foster positive interethnic relations, hostilities among teachers and students may lead to disengagement and racial polarization. In an ethnographic study of high school students, young black students comment on the racism they perceive in their school:

> [White students] always getting what they want 'cause the teachers white....If you black you have a better chance with a black teacher....some black kids [here] don't like their teachers. Lot of racism (Semons, 1989, p.15).

Various studies suggest that stereotypical perceptions of students' race, gender, dialect, and other characteristics may affect teachers' evaluations of young people (e.g., DeMeis and Turner, 1978; Rist, 1970; Williams and Muehl, 1978).

Fine (1983) suggests that the "at-risk student behaviors" of some youth may be a protest against the racial, gender, and class biases in schools. In a study that followed African-American and Latino students over the course of a year, those who dropped out by the end of the year were no more likely to have the stereotypical dropout characteristics -- depression, poor reading ability, learned helplessness -- than their peers who remained in school (Fine, 1983). The distinguishing characteristic between dropouts and student persisters in this study was that dropouts were more likely to have challenged teachers about perceived injustices in the classroom.

Ability grouping and tracking. Regardless of racial, gender, and class backgrounds, lower-track students may feel unwelcome and undervalued in school. Examining the effects of tracking in a predominantly white school in a well-to-do neighborhood, Page (1989) reports that students in the lower tracks are discouraged from active classroom participation. Similar to Fine's (1983) findings in a racially mixed school, Page notes that when the lower-track, mostly white students in her study attempt to discuss class topics, teachers tend to discount their comments or silence them by talking over their heads (p.213). Discouraged by their marginality, these middle class, lower-track students are, according to Page, about as likely to become disengaged and drop out as students from "disadvantaged" backgrounds (p.202). Page argues that tracking is a complex phenomenon shaped by school's ambivalence towards lower achieving students that cannot be explained simply as a manifestation of social injustices.

Other studies suggest that tracking may exacerbate negative peer influences and racial tensions because students tend to choose their friends from among those in their assigned ability group (Hallinan and Sorensen, 1985). Ianni (1989) notes that this friendship selection pattern may reinforce poor study habits and antisocial behavior among lower-track students (p.133-135). Koslin et al. (1972) finds that tracking may exacerbate racial polarization: Students are more likely to stereotype members of other racial groups in homogeneous classrooms than in heterogenous classrooms.

Meta-analyses of the effects of ability grouping/tracking on academic performance have resulted in mixed findings (e.g., Slavin, 1990; Braddock, 1990; Kulik and Kulik, 1982; also, see Chapter 7, this volume). Some studies conclude that stratification depresses performance for lower track students; other studies find that it has no effect.

School Resources

Over the past thirty years, various studies have documented huge expenditure disparities among districts and schools (Barton, Coley, and Goertz, 1991; Taylor and Piche, 1990; Sexton, 1961). The tax bases in poor areas are limited, and community members are often less able to donate time and resources to schools than community members in wealthier areas.

Sensing that school resources are related to student outcomes, parents attempt to place their children in resource-rich schools. Residents of low-income areas often complain that the educational opportunities offered by their local schools are inferior to the educational opportunities provided by schools in high-income communities:

> I know they [students at an affluent school] have a lot more opportunity. They have, like, foreign language, science labs with microscopes....I never had anything like that. We had reading, writing, and arithmetic, and a little bit of music and art...[An affluent school nearby] has French and Spanish and orchestra and the whole thing (Brantlinger, 1985, p.398).

Many teachers in poor schools supplement student texts and materials out of their own salaries. Yet there is little teachers can do about hazardous facilities. Visiting some of the poorest schools, Kozol (1991) describes horrendous conditions such as backed up sewage, collapsing roofs, shattered windows, faulty heating systems, and broken toilets. Depressing surroundings may stifle aspirations and increase alienation. As one young man in a dilapidated school says, "Don't tell students in this school about 'the dream.' Go and look into a [broken] toilet here [at this school] if you would like to know what life is like for students in this city (p.36)."

Administrators in high poverty areas may have difficulties developing long-term plans for schools because they can not predict the availability of resources. Promising programs may be terminated or never fully implemented due to fiscal instability. Studying a Navajo educational program, McCarty (1989) reports that the poverty of the area and the dependence on fluctuating federal monies led to instability in program staffing and limited success.

Do school resources make a difference? Contradicting anecdotal evidence that school resources make a difference, some researchers argue that, controlling for student background, school expenditures are not related to student performance. The findings of the well-known *Coleman Report* (N=569,000 students nationwide) suggest that family and peer influences, not school resources, are the important determinants of student performance (Coleman et al., 1966).

Similarly, Gastil (1972) argues that school inputs alone cannot explain regional differences in educational outcomes. Examining data on the relation of regional cultures to student performance, Gastil asserts that persistent, long-term cultural differences in the value placed on education may explain why the South tends to lag behind other regions in student performance.

Analyzing over twenty years of research on expenditure differences since the *Coleman Report*, Hanushek (1990) concludes that the accumulated evidence confirms there is no systematic relation between school resources (e.g., school administration, facilities, teacher education, teacher-student ratios) and educational outcomes.

Disputing these findings, other researchers point to new studies that indicate school resources do influence student performance. Describing a study conducted for the state of Texas involving more than 2.4 million students in 900 districts, Ferguson (1991) reports that school inputs predict students' scores on standardized reading and math tests. Better teacher literacy skills, smaller class sizes, and more years of teacher experience are correlated with better student test performance, controlling for family and community background factors (i.e., single-parent households, poverty, parental education, English as a second language, race, and other demographic variables). Similarly, other studies (with much smaller data sets) suggest a relation between various school inputs (principal effectiveness, time-on-task, teacher experience) and student performance (Biniaminov and Glasman, 1983; Eberts and Stone, 1988; Kiesling, 1984). Kiesling (1984) argues that earlier studies that show negative results for school effects on student outcomes may suffer from assignment bias (i.e., failing to control for the fact that underachievers may disproportionately receive certain types of specialized instruction), bad data, and other problems.

Do school resources influence student outcomes? To sum up the analyses above, research to date provides support for a qualified "yes." Comparisons of aggregated expenditure data do not provide evidence of a strong correlation between expenditures and outcomes; however, certain school resources, such as high quality staff, that obviously require funds seem linked to student achievement.

Equal funds vs. equitable resources. To achieve equity in school inputs, some researchers argue that impoverished schools may need more funding than middle class schools. Poor rural areas, for example, must spend more than metropolitan areas to provide equivalent educations (Green and Schneider, 1990). Teachers demand higher salaries to teach less wealthy, lower-achieving students, thus impoverished schools, especially in rural areas, may have trouble attracting expert personnel (Capper, 1990; Levinson, 1988). The cost of instructional materials, building upkeep, and support services may also vary between regions. Children's needs may also vary between school sites, resulting in different resource requirements.

CHAPTER 4

INTERACTION OF RISKS AND RESOURCES

It is misleading to assess the risks posed by home or school characteristics in isolation from one another. Parent and teacher expectations that pose no risk to children in and of themselves may cause problems if they are in conflict. Furthermore, research suggests that there are cumulative, interactive effects between risk factors and resources. As students progress through school, the interaction of risks and resources over time may lead to achievement disparities.

Dissonance Between Home and School

Congruence between home and school socialization seems related to student success. Examining the relation between home environment and the development of literacy skills in first graders from low income, Portuguese-American families, Becker (1991) finds that the degree to which parents expect good grades or high school completion does not distinguish high from low achieving students. Rather, children who perform well in reading tend to come from homes in which parents set high expectations for and praise the completion of household tasks. Becker conjectures that high achievers' home environment is congruent with the school environment. High achievers have learned at home to complete tasks independently, quietly, and obediently -- behavioral styles important to school success.

In some cases, dissonance between home and school may be caused by cultural differences (Boykin, in press; Gordon and Yowell, in press; Greenbaum, 1985; Moore, 1985; Valdivieso and Nicolau, in press; Vogt, Jordan, and Tharp, 1987). Merely providing multicultural materials will not eliminate dissonance -- learning contexts must also allow for differences in the values, skills, and learning styles children bring to the classroom. Some studies, for example, indicate black children prefer and do better in communal learning settings, while white students prefer and do better in competitive learning settings (for a discussion, see Boykin, in press). Other research suggests a relation between cultural differences in child-rearing environments and intelligence test performance (Moore, 1985). Cultural dissonance may also lead to erroneous interpretations of parent behaviors, creating misunderstandings between home and school (Valdivieso and Nicolau, in press). Research in this area does *not* suggest that cultural dissonance inevitably leads to problems in the classroom -- many students adjust to the dissonance between home and school. However, research suggests that bridging the gap between home and school may facilitate learning for all students, especially students at high risk.

Interactive Risks

Describing a study on the relation between life stresses and psychiatric disorders in children, Rutter (1979) reports that children with only one risk factor -- even if the risk factor was serious -- were no more likely to have emotional problems than children with no risk factors. However, when any two risk factors co-occurred, they appeared to "potentiate" one another and the risk of emotional problems went up fourfold (p.52).

Benson's (1990) findings also point to the "potentiating" effect of multiple risks. In a survey of predominantly white, Midwestern public school students in grades 6-12 (N=46,799), Benson (1990) finds that students with larger numbers of "deficits" (e.g., physical or sexual abuse, parental addiction, stress, social isolation) are much more likely to engage in at-risk behaviors, such as alcohol use or school absenteeism. At-risk behaviors were found to co-occur: For example, students involved in illicit drug use were also likely to be sexually active (pp.48-49). Other research finds similar correlations (Frymier, 1992; Mensch and Kandel, 1988; Monk and Ibrahim, 1984).

Many at-risk behaviors co-occur due to *cause-and-effect* -- young people who skip classes, for example, miss out on instruction, thus they have a harder time passing tests and making good grades. Academic failure may further discourage them from coming to class, thus a downward spiral of absenteeism and poor achievement may ensue. Sometimes the process of becoming at risk may extend back before birth -- as noted in Chapter 2, poor prenatal care may place a child at risk of poor neonatal health, poor neonatal health may place a child at risk of developmental problems and poor parenting, and the combination of these problems over time may place a child at risk of difficulties in school.

At-risk behaviors may also co-occur because of direct or indirect *peer influences* -- for example, if a young person skips class with friends who use drugs or alcohol, the young person may pick up the habit to fit in. Also, at-risk behaviors -- and the responses of teachers to these behaviors -- may place an entire class at risk, not just the students who choose to engage in at-risk behaviors. For example, Monk and Ibrahim (1984) find that the standardized test performance of students who regularly attended class may be negatively influenced by their classmates' absences. The time teachers spend reviewing lessons with chronic truants, for example, may take time away from educational opportunities for the rest of the class. These findings suggest that we need to explore and address the group contexts, as well as the individual processes, that influence how diverse students become at risk. These findings also suggest that the costs of remediating the effects of at-risk behaviors and poor classroom climates may expand immeasurably if they are not addressed as early as possible.

Cumulative Resources

Differences in early childhood resources may lead to a widening achievement gap over time between children. Walberg and Tsai (1983) argue that early investments in child care have a "Matthew effect" -- initial advantages in educative and personal resources increase the likelihood that children will have the motivation and skills to invest in and profit from schooling, resulting in cumulative advantages over time.

In a longitudinal study of Hawaiian young people, "resilient" youth were found more likely to have fewer life stresses as well as more resources (e.g., healthy neonatal conditions; supportive relatives) than youth who developed serious learning and behavior problems (Werner and Smith, 1982). The cumulative effect of resources seemed to protect young people from succumbing to stress and, in some instances, appeared to make young people so resilient that exposure to one or two risk factors only toughened them. For example, young people who had suffered economic deprivation, but who had other assets that sustained their resiliency, rated higher on self-confidence, integration of impulses, and use of personal resources than a control group who had not suffered economic deprivation (p.91). Personal resources may provide individuals with the means to overcome and to learn from hardships.

Rutter (1979) also observes that some young people are seemingly "invulnerable" to major life stresses because of assets in their environment that compensate for the risk factor. Similarly, Benson (1990) finds that "deficits are not destiny" -- abused children, for example, who have certain "assets" (e.g., positive school climate, extracurricular participation, church or community involvement) are much less likely to be involved in at-risk behavior than abused children who lack these assets (pp.77-78).

Many educators point to the cumulative effects of resources to argue for early intervention programs. Campbell and Ramey (1989) report preschool intervention is more effective than school-age intervention at enhancing intellectual growth and improving student performance. Other research suggests preschool programs may have long-term positive effects on literacy, employment, and social behavior (Berrueta-Clement, Schweinhart, Barnett, Epstein, & Weikart, 1984). However, a "fade-out" effect may occur if successive grades fail to build upon preschool influences and address age-specific needs (see Chapters 8 and 9, this volume).

CHAPTER 5

AN INTEGRATED PERSPECTIVE FOR UNDERSTANDING STUDENT PERFORMANCE

How well do past and present theories of academic failure "fit" recent research? We analyze some of these theories below, then we incorporate previous research into a somewhat more inclusive model that illustrates how risk factors, resources, and their interactions may lead to differing degrees of school success.

"Cultural Deprivation" vs. "Socioeconomic Disadvantages"

Does parenting or social structure determine children's success in school? During the 1960s, researchers who adopted the first perspective argued that *culturally disadvantaged* black and low-income youth were disabled by home environments that failed to stimulate intellectual development, reward student achievement, and support school completion (Deutsch et al., 1967). According to these researchers, "culturally disadvantaged" students fail because they are not prepared for the high expectations and standards of their middle-class teachers.

There are two main flaws with the "cultural disadvantage" perspective: (1) It suggests the average low-income family is dysfunctional, and (2) it views cultural difference as cultural deficit. Although the reported incidence of family conditions that place children at risk (e.g., neglect/abuse) is higher for low-income families, there is no evidence that the average low-income home fails to foster healthy child development. Differences in child-rearing practices may be appropriate responses to environmental differences -- it is wrong to assume, for example, that an optimally functioning black family would behave precisely like a middle class white family (Slaughter and McWorter, 1985, p.12). Recent research *does* suggest that cultural dissonance may lead to problems in the classroom and between parents and teachers, but that should not imply that the home culture is inferior or not supportive of learning. Rather, it suggests that teachers, parents, and students must adapt (not necessarily assimilate) to one other.

Other researchers have asserted that *socioeconomic disadvantages* constrain educational opportunities for poor children and children of color (Bowles and Gintis, 1976). Emphasizing social inequalities, these researchers argue that the instruction that poor children receive is inferior to the instruction of middle-class and upper-class students. For example, Ryan (1976) states that instead of "blaming the victim" by pointing to deficiencies in the ability, character, or family functioning of students, researchers need to look at structural problems in schools and society.

Research suggests that structural problems in schools and society do explain much of the variance in student performance. As examined in previous chapters, economic disparities and low social status can influence a child's ability, willingness, and opportunities to learn. However, while socioeconomic explanations may explain broad disparities in student outcomes, they do not explain the variations in performance among students with similar backgrounds or among schools that serve similar demographic groups. Thus, family and socioeconomic explanations, by themselves, do not identify the *specific* school inputs and external resources associated with high (or low) academic performance.

Student Engagement

Researchers increasingly conceptualize poor educational performance as the outcome of a process of *disengagement* that may begin as early as a child's entry into school (Finn, 1989; Kelly, 1989; Merchant, 1987; Rumberger, 1987; Natriello, 1984). According to this model, students who do not identify, participate, and succeed in school activities become increasingly at risk of academic failure and dropout. In order to improve student achievement and persistence, the model suggests that the school climate must foster "investment" behavior -- schools must encourage student involvement in academic and extracurricular activities by stimulating their interest, increasing their personal resources (e.g., remediating skill deficiencies), and rewarding their efforts.

Although models of disengagement often employ sociological concepts (e.g., alienation) to explain student behavior, they are usually used to analyze student performance in the context of school interactions rather than as symptoms of social maladies. Lacking the politically charged nature of terms such as "cultural disadvantage" or "socioeconomic oppression," the relatively neutral concept of disengagement has become a part of the lexicon of diverse groups of researchers, policymakers, and educators.

In an early and influential model of student engagement, Tinto (1975) blends elements of cost-benefit analysis and Durkheim's theory of egoistic suicide to explain the "pull" and "push" of external factors on dropout decisions. Although Tinto uses the model to explain college student attrition, similar models have been applied to younger students (Finn, 1989; Wehlage et al., 1989). Tinto argues that "social conditions affecting dropout from the social system of the college resemble those resulting in suicide in the wider society; namely, insufficient interactions with others...and insufficient congruency with the prevailing value patterns (pp.91,92)." Simply stated, people who feel they do not "fit in" tend to withdraw. Students who fail to find a satisfactory niche in the academic or social system of the college develop low levels of commitment to the institution and/or to college completion.

To give this description of the process of dropping out predictive power, Tinto incorporates elements of cost-benefit analysis into the model. He asserts "a person will tend to withdraw from college when he perceives that an alternative form of investment of time, energies, and resources will yield greater benefits, relative to costs, over time than will staying in college (p.98)." In other words, if external activities become more attractive than college completion, a student will drop out.

In a review of the research on high school dropouts, Finn (1989) explicates a model of engagement that shows high school dropout as resulting from low levels of participation and identification with school:

> According to this formulation, the likelihood that a youngster will successfully complete 12 years of schooling is maximized if he or she maintains multiple, expanding forms of participation in school-relevant activities (p.117).

Similar to Tinto's conceptual framework, the participation/identification model concentrates on variables within the school setting that have a longitudinal influence on academic engagement. Attendance problems and disruptive behavior are early signs that a student is disengaging from school.

Expanding Tinto's model of disengagement, Bean and Metzner (1988) identify environmental variables (e.g., family responsibilities, work) to explain dropout in older, non-traditional college students. Environmental variables may push students out of school by putting too much pressure on their time and resources. Bean and Metzner's model may apply to high school students who have job or family responsibilities.

Models of engagement offer powerful explanations for academic progress and student persistence to graduation. As discussed in previous chapters, no matter the quality of educational opportunities, if students are not engaged with schoolwork, the likelihood of academic success is low. However, to determine the *value* of student persistence, that is, the degree to which students learn useful skills, we must incorporate assessments of educational quality into measures of engagement. Otherwise, we may design "engaging" reforms that do little more than encourage students to persist in schools and along academic tracks that are still separate and unequal, and to succeed in educational programs that may be irrelevant to the intellectual and social demands they must face as adults.

An Alternative Model of Student Performance

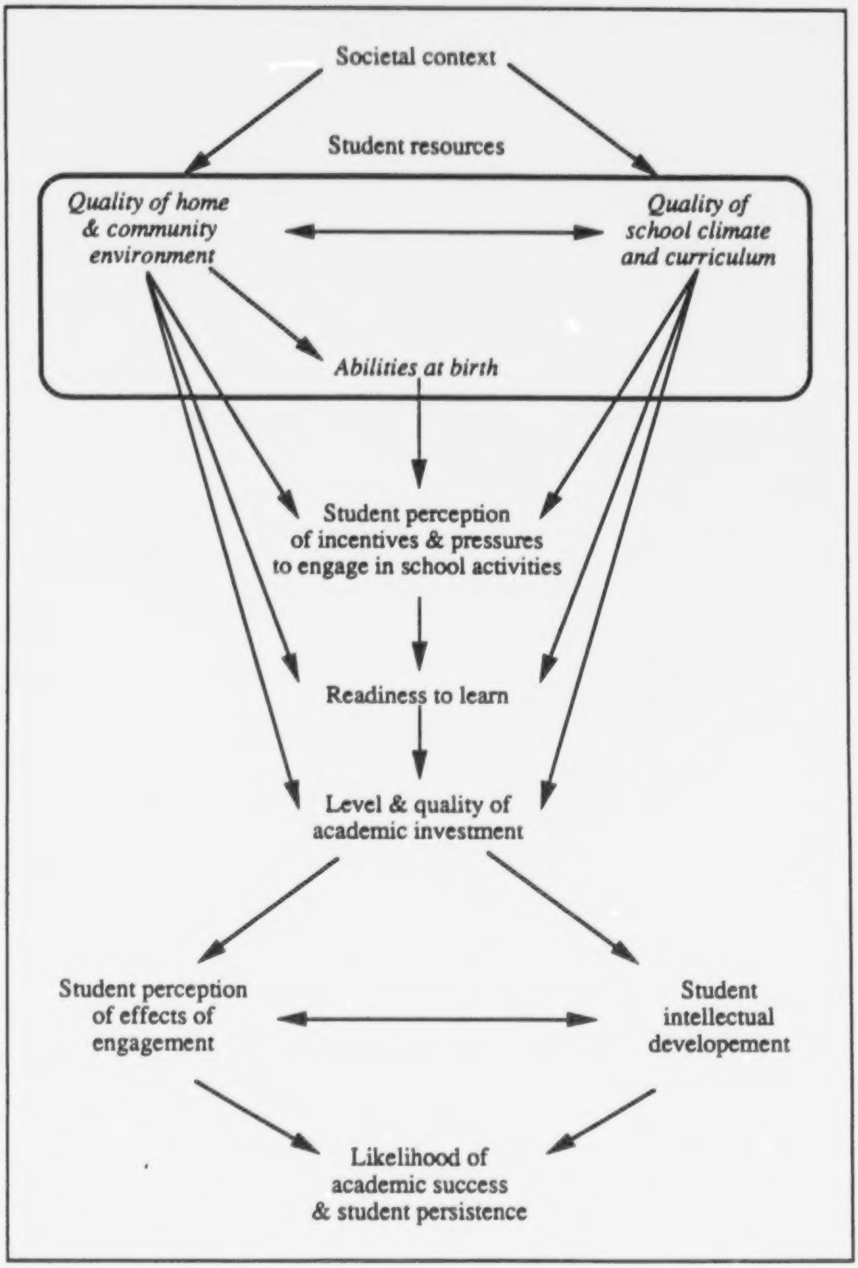
A student's personal, home, community, and school characteristics should not be studied in isolation -- all of these variables contribute to student performance, and they are strongly interactive. Recognizing these interactive dynamics, we integrate various theoretical perspectives to explain the variety of reasons that some students fail and others succeed. In particular, we build upon Rossi and Gilmartin's (1980) conceptual framework for the study of educational performance.

As shown in Figure 1, we argue that academic progress is primarily an ongoing function of (1) the quality of student resources (e.g., abilities, family support, educational opportunities) and (2) the incentives and pressures perceived by students to invest these resources in academic achievement. Past "returns" on educational investments have a cumulative impact on a student's ability and desire to achieve academic success and persist in school.

This model combines elements of various engagement models (e.g., Bean and Metzner, 1988; Tinto, 1975). Two distinctive elements of this model are that (1) we note the perception of the effects of engagement may change over time and influence subsequent engagement and (2) we distinguish between academic engagement and intellectual development. In order to provide a quality education, schools must foster intellectual development as well as encourage student interest and involvement in the classroom. Intellectual development includes, but is not limited to, learning language or math skills: Ideally, intellectual development enhances understanding of the self and the environment *and* adds to a young person's academic proficiencies.

In this conceptualization, "risk factors" are variables that decrease the probability that a student will possess the ability, willingness, or opportunities for academic engagement and intellectual development. Being an African-American child, for example, is not a risk factor, while experiencing adverse treatment in or outside the classroom because of one's race or ethnicity is a risk factor.

Figure 1. A Conceptual Framework of Youth Development and Educational Performance


Societal context
Student resources
Quality of home & community environment
Quality of school climate and curriculum
Abilities at birth
Student perception of incentives & pressures to engage in school activities
Readiness to learn
Level & quality of academic investment
Student perception of effects of engagement
Student intellectual developement
Likelihood of academic success & student persistence

"Resources" (e.g., good health, high quality instruction) are variables that increase the probability that a student will possess the ability, willingness, or opportunities for engagement and intellectual growth. The absence of basic resources (e.g., adequate nutrition) may place a child at risk, while the presence of special resources (e.g., private tutoring in advanced subjects) may give a child an advantage in relation to his or her peers (Reed, 1975). If an improvement in resources eliminates the risk factors that threaten academic progress, a student should no longer be considered or labelled "at risk."

Societal, School, and Environmental Contexts. As Bronfenbrenner (1979) points out, the multiple social systems that young people participate in have an "ecological" relation to each other. The levels of parental and community resources may influence neonatal health and abilities at birth; developments at home may lead to changes in student behavior; and changes in community demographics and resources may directly or indirectly lead to changes in the school environment. High academic achievement is most likely when schools, homes, and communities contribute to students' ability, willingness, and opportunities to invest in education. Academic failure is most likely when a student has few or no sources of encouragement, practical support, and educational opportunities.

The model presented here, however, does not suggest that schools, homes, and communities must all function optimally in order to prevent educational failure. Resources in one social system may mediate risk factors in another social system. For example, an intellectually stimulating home may compensate for inadequate schooling, and a supportive, orderly school may mitigate the effects of a dangerous, chaotic neighborhood.

Perception of Incentives and Pressures. Most theories of engagement focus on the incentives for student involvement. The attraction of interesting and relevant assignments, the satisfaction of personal accomplishment, the pleasure of group participation, the desire to acquire skills necessary for a lucrative career, and other rewards may encourage student achievement and persistence. Incentives to do well academically must be greater than the incentives to engage in competing activities.

In addition to incentives, research suggests that pressure is also a powerful inducement for student engagement. "Pressure" has negative connotations, so people often talk of "challenging" students rather than pressuring them. However, while "challenge" describes the "pull" of encouragement or stimulating curriculum, it fails to convey the "push" of punishment or loss of rewards. Successful students often have parents, teachers, and peers who "push" them to do their best academically. These students know that if they fail to show effort, they may experience undesirable outcomes such as reproaches from teachers, loss of privileges at home, or criticism from their friends. However, pressure to achieve seemingly unattainable goals may result in disengagement and dropout.

As shown in the diagram, abilities at birth may influence students' perceptions of the incentives and pressures to engage in school activities. If students have strong talents in certain areas, engaging in those activities may be especially appealing and rewarding to them. A student with a high aptitude for math, for example, may find math assignments inherently rewarding, and she may also enjoy the praise she receives from her teachers and parents. Conversely, students born with conditions that make learning or class participation difficult may see little incentive to engage in activities that appear hard and unrewarded.

However, the degree to which students perceive goals as attainable and the extent to which they are aware of academic rewards are not necessarily accurate reflections of reality. As Alva and Padilla (1989) point out, the presence or absence of support from family members, school personnel, and others may shape students' attitudes about their abilities and influence their performance. In addition, differences in personality, culture, or learning styles -- and changes in employment opportunities or social status -- may lead to differences or changes in the types of learning contexts perceived as "rewarding." It is not enough for schools to provide learning opportunities that are viewed by school staff as excellent: Schools must understand and communicate the relevance of these opportunities to students' lives, and schools must bolster students' confidence in their abilities to take advantage of these opportunities.

Readiness to Learn. As indicated in Figure 1, students' readiness to learn is an interaction between the environment, the school, and students' perceptions of the incentives and pressures to engage in school activities. Each of these factors structures a student's readiness to learn. The degree of "fit" between a child's abilities and the demands of school life, the extent to which there is consonance between home and school expectations, and the extent to which school activities appear rewarding influences a child's readiness to meet school requirements.

Environmental and school factors contribute varying levels of assets that may affect students' readiness to engage in school activities. The most important of these resources are those that meet children's health and developmental needs. Although children's characteristics may differ, they all have the same basic needs for food, clothes, and shelter; safety and stability; adequate health care; guidance and loving support. If these basic needs are unmet, a student is at risk of being inattentive, unresponsive, and uncooperative in school. Exceptionally skillful parenting, richly supportive communities, and other resources may increase children's ability and willingness to learn, giving them an advantage in school.

Level and Quality of Academic Investment. Student investment is essential to academic success and student persistence. If students invest time and effort in school activities, the likelihood that they will achieve academic success increases. Students' readiness to learn is key to academic investment. If students lack the skills or desire to engage in classroom assignments, their investment in these activities is likely to be low.

In addition, as shown in the diagram, a student's home and school may influence the level and quality of student investment. Given similar levels of student effort, the academic investments of a student with excellent educational opportunities are likely to be more productive than those of a student with poor educational opportunities. Lack of exposure to challenging subject areas or inadequate instruction in these areas may limit skill acquisition. Home exposure to challenging educational opportunities may compensate for or complement school exposure, and vice versa.

Limitations of the model. It is important to note that this model, like many other models of student engagement, is an attempt to explain and predict academic progress for individual students at risk -- it does not deal with all the factors that affect educational equity or social mobility. Although it may be used as a conceptual tool for understanding the performance of students and schools, it does not fully suggest how to change *patterns* of educational inequities and mediocrity.

To fully understand and address the factors that perpetuate social disparities and place students at risk, we need a conceptual framework that, at the very least, compares the quality of educational opportunities across schools and social groups. As we note in this and previous chapters, educational disparities are not simply the result of risk factors that cause emotional or physical harm, or that alienate students from school -- many students at risk of developing low skill levels are emotionally and physically healthy, and they enjoy a relative amount of academic "success" in warm, caring (yet substandard) schools. For many of these students, cumulative disadvantages in educational opportunities may place them in danger of being unable to compete with more advantaged, better educated students in college or the job market. Reforms that raise the educational performance of all socioeconomic groups will not necessarily reduce school inequities -- school reforms may cause identical rates of academic progress for all groups, leaving the same degree of educational disparities between groups. And improvements in standardized test scores or attendance should be applauded, but they should not be our sole gauge of progress towards educational excellence and relevance -- the range and level of skills acquired may be inadequate for the demands of adult life. Specifying the range and level of skills that diverse students need to acquire -- and developing a detailed strategy for providing the school inputs and external resources necessary to cultivate these skills -- is beyond the scope of this monograph and is a subject of ongoing debate among those involved in school reform.

Yet there is a growing consensus on effective school practices for all students, including those at high risk -- a consensus that hopefully will serve as a foundation for conceptualizing and addressing patterns of inequity across schools. The research on effective school strategies is examined in the following section.

SECTION II

RISING TO THE CHALLENGE: EMERGING STRATEGIES FOR EDUCATING STUDENTS AT RISK

Nettie Legters, Edward McDill, and James McPartland
Center for Research on Effective Schooling for Disadvantaged Students
Johns Hopkins University

CHAPTER 6

THE CHALLENGE

What can be done to effectively engage and educate students who are at risk of low achievement, failure, and eventually, of dropping out of school? What can be done for students who perform reasonably well, but whose educational programs provide them with substandard or limited educational opportunities and experiences, leaving them at a disadvantage as they move on to college or work? These questions have been a central concern of many educators over the past three decades and have given rise to a vast number of strategies and programs designed to (1) provide extra help to chronic underachievers and (2) equalize distribution of educational resources and opportunities. Large federal programs initiated during the 1960s as part of the Johnson administration's "Great Society," such as Headstart, Title 1 (now Chapter 1), and Upward Bound are just a few extant examples of what has become an extensive and complex maze of efforts.

In this section, we examine a sampling of strategies and programs that, taken together, outline the terrain of both traditional and emerging responses to the challenge of educating poor children and children of color.[1] We begin by looking at ways in which schools traditionally have addressed academic and socioeconomic student diversity, focusing on tracking, retention, and special education, and we explore the controversies surrounding each of these approaches. After outlining some of the tensions that have developed out of thirty years of research and practice, we then turn to an overview of current and emerging strategies and programs that appear to hold particular promise for educating students at risk.

In our examination of strategies and programs, we have consistently observed two troubling, if not new, phenomena. The first is commonly known as the "fade out" effect. Too often students participate in a particular program and make significant academic and/or behavioral improvements, only to have these gains drop off when they are promoted out of the program or move to another school. The second observation is that individual programs often address only one source of a student's difficulties, by providing extra help in reading or involving the student in a mentoring program, for example. Such programs may have positive benefits that extend beyond their stated purposes: academic programs may increase self-esteem, while a non-academic mentoring program may motivate a student to improve his/her academic work. Few programs, however, explicitly address the student as a whole person with a variety of complex needs and experiences, all of which have some impact, positive or negative, on her or his ability to learn.

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[1] We intend this review to both complement and supplement other, more extensive reviews, most notably Natriello, McDill and Pallas (1990), McDill (1992), and Slavin, Karweit, and Madden (1989).

Each of these themes points to the need for integrated strategies that address all aspects of students' academic and social development. In our conclusion, we review four key dimensions of any serious integrated strategy geared toward students at risk: academic success, relevance of schoolwork to current interests and the future, positive relationships within school, and supportive conditions beyond school.

This discussion should be useful to policymakers and practitioners who must consider such practical questions of priorities, the timing of resource allocations, and the costs and benefits of what appear to be opposing strategies, such as targeting resources versus whole-school/district restructuring. Whether it is called reform or restructuring, change in schools must be informed by lessons from practice. Moving through the maze of programs and strategies to determine what works, where and for whom, is only the starting point, however. The challenge to all researchers, policymakers, and practitioners is to develop innovative, creative, and self-reflective strategies that stimulate all students to learn, while ensuring that the specific needs of students at highest risk are not lost in the fray. No single strategy will provide the solution to all our education ills. Indeed, there are multiple paths to success, many of which remain to be discovered, that can be forged only in practice -- ongoing, tough, context-specific, and informed practice.

CHAPTER 7

COMPENSATORY EDUCATION: TRADITIONAL RESPONSES AND CURRENT TENSIONS

Diversity is the single most defining characteristic of the United States' populace. Marking the quincentennial year of Columbus' voyage, we are ever more aware of our vast cultural, ethnic, linguistic, political, and socioeconomic differences. Many of these differences existed even before this land was officially "discovered." And diversity will be no less a characteristic of U.S. society in the years ahead, as demographic and migration projections indicate that our population is growing even more heterogeneous. Along racial and ethnic lines, census figures indicate that for the school-age population under 18 years, the total proportion of non-Hispanic white children is expected to decrease from seven in ten to one in two by 2020, while the total proportion of children from Latino backgrounds will increase from one in nine to one in four. The number of African-American children is expected to increase slightly during this period, and the total percentage of other groups (mostly Asian) is projected to nearly double, from 4% to 7% of the total population of school-age youth (Natriello, McDill and Pallas, 1990).

Race and ethnicity comprise only one set of indicators of student diversity. Other indicators show that an increasing number of students are growing up in single-parent and otherwise non-traditional family structures, more children are living in poverty, and more children are entering school with a primary language other than English and/or with limited English proficiency (ibid., pp. 25-28). Children also may exhibit diversity in less apparent ways. For example, there is some evidence that they may have different learning styles, which can have a considerable effect on their success in traditional learning environments (see Gardener, 1983).

In the context of formal schooling, being different has too often meant being deficient, and being deficient has meant "being at risk of academic failure". The compensatory education movement was founded in the 1960s on the assumption that many students, because of their minority and poverty status and their low academic achievement, are disadvantaged and should be provided with extra help and programs to "compensate" for those disadvantages. This "deficit model" has been criticized for rationalizing students' failure in terms of alleged deficiencies in their background -- a version of blaming the victim, which often serves to uncritically legitimize the existing school system (Baratz and Baratz, 1970, and Valentine, 1970).

Schools traditionally have responded to student diversity, poor academic performance, and dysfunctional behavior that are often the result of these differences with both organizational and programmatic approaches. Below we discuss instructional grouping and retention as two core organizational strategies that have been used, not without controversy, since the late 19th century. We also briefly consider special education and Chapter 1 pull-out programs as two more recent programmatic efforts to better educate students at risk.

Traditional Responses

Grouping. Students at all school levels are placed in instructional groups, with age- or grade-groupings being the most obvious examples. One of the most pervasive and controversial forms of instructional grouping is the placement of students in homogeneous learning groups within a grade or even within a classroom according to evaluations of their academic performance. There are a number of labels applied to this practice, with the term "ability grouping" most often used to describe this kind of organization at the elementary level, and "tracking" most often applied at the high school and sometimes the middle school levels (see the review by Oakes, 1992, in the Encyclopedia of Educational Research, for extensive discussion of grouping and tracking).

Instructional grouping by ability is designed to enable teachers to most efficiently match content with students' apparent ability levels and learning paces. Both ability grouping and tracking have been severely criticized as methods for dealing with student diversity, however, because poor children and children of color are disproportionately represented in lower groups or tracks and there is evidence that lower-level classes are often stigmatized and are likely to provide poor climates for learning and lower expectations for student achievement. (Oakes, 1985, 1989, 1992; Slavin, 1989; Gamoran and Berends, 1987; Braddock, 1990). Students in the lower tracks often have restricted learning opportunities because the contents of their courses have been "dumbed down" and their teachers may be less experienced (in some cases, not even fully certified).

The relationship between different forms of instructional grouping and academic achievement is inconclusive, however. At the elementary level, Slavin (1987) synthesizes empirical evidence and shows that some forms of ability grouping do appear to be beneficial, especially when students are grouped for only one or two subjects while remaining in heterogeneous classes most of the day. He cites the Joplin Plan as an example of limited-ability grouping. Under the Joplin Plan, students are grouped by ability for reading only while remaining in heterogeneous groups for the rest of the day. Reading groups are cross-grade and assignments are frequently reassessed. In eleven of fourteen studies reviewed by Slavin (1986), Joplin or Joplin-like plans showed consistently positive effects on student achievement. In contrast, he finds that the between-class, whole-day ability grouping at the elementary level has little or no positive effect on student learning.

At the high school level, students are often tracked into distinct academic, general, or vocational curricular streams. This has consequences not only in terms of the quality of education they receive, but for peer-group formation, likelihood of graduation, and future educational and employment opportunities (Oakes, 1992; Braddock, 1990). Moreover, there is little evidence that students at the secondary level benefit academically from being in tracked classes (Slavin, 1990). In his analysis of several nationally representative data sets, Braddock (1990) finds that, in 1982, African-

American and Hispanic students were significantly over-represented in vocational tracks and significantly under-represented in academic tracks when compared with white students. Moreover, studies show that completion of a vocational program often fails to significantly improve a student's employment prospects (Oakes, 1992). Finally, Gamoran and Berends (1987) in their review of a number of studies on tracking report that the most consistent finding across studies is the effect of tracking on subsequent educational attainment: students in academic tracks are much more likely to have college aspirations and to actually enroll in college than their non-academic track peers.

As Oakes (1992) notes, "(S)chools serving predominantly low-income and minority students offer fewer advanced and more remedial courses in academic subjects, and they have smaller academic tracks and larger vocational programs (p. 567)." Restricted learning opportunities and persistent inequalities in the kind of education offered to disadvantaged students only puts those students at an even greater disadvantage, in school and in later life. While there is a great deal of controversy in this area, much of the evidence supports the conclusion that ability grouping and tracking as currently practiced do more harm than good for the overall educational achievement and attainment of low-performing, students at risk.

Retention. Like tracking, the practice of holding back students who fail to demonstrate required levels of achievement has been a common response to the challenge of educating low-achieving students. Also like tracking, the bulk of the research evidence shows that retention, as it is currently practiced in most schools, has few positive and mostly negative effects on student learning (see Shepard and Smith, 1989 for a collected review).

In a meta-analysis of 63 studies, Holmes (1989) finds that, on average across the vast majority of studies, retention produces negative results on such measures as academic achievement, personal adjustment, self-concept, and attendance. In the studies that showed positive results, retained students enjoyed unusually intensive remediation, were higher-level retainees, and were often mainstreamed with their age peers for part of the day. Even in these studies, however, when compared with matched promoted students who also received extra help, retained students performed more poorly than did the promoted students.

Grissom and Shepard (1989) explore the effects of retention on dropping out of school and find that retained students are at greater risk of dropping out of school, controlling for poor academic achievement. These findings linking retention to dropping out are supported elsewhere (see, for example, Natriello, McDill and Pallas, 1990).

McPartland and Slavin (1990) point out that, as with tracking and ability grouping, retention might help improve the achievement of students at risk, but only if it is done in a "timely and effective" way, i.e. only holding back very young students who are less affected by the stigma of being retained, or only holding students back at certain key transition points in their school careers and providing them with high quality special programs if they have failed to master the skills required to advance.

Special education. Special education services have long been provided to students who have identified handicaps. Since the passage of Public Law 94-142 in 1975, school districts have provided services for handicapped students ranging from special schools to special classes within regular schools to various part-time placements. In these programs, students typically receive small group instruction from specially certified teachers.

In recent years there has been a substantial increase in the numbers of students with mild academic handicaps who are receiving special education services. While the percentage of students categorized as physically disabled and mentally retarded stayed at about the same level from 1976-1989, the number of students categorized as learning disabled increased by more than 250% during the same period (National Center for Educational Statistics, 1990). According to Slavin (1989), almost 90% of this increase represents the entry into the special education system of low achievers who would not have been served in special education in the 1970s. Hence, he concludes, "special education has assumed a substantial burden in trying to meet the needs of students at risk of school failure..." in spite of the fact that "...research comparing students with mild academic handicaps in special education to similar students left in regular classrooms finds few benefits for this very expensive service" (Leinhardt & Pallay, 1982; Madden & Slavin, 1983).

Chapter 1 programs. The largest compensatory education program that provides extra help to impoverished students is the national Chapter 1 program. Chapter 1 began as Title I of the Elementary and Secondary Education Act of 1965 and continues today as the primary source of funding for a wide range of programs for students at risk. In the 1991-92 school year alone, Chapter 1 provided more than $6 billion to programs in 90% of public school districts serving approximately five million students nationwide (LeTendre, 1991; Anderson, 1992). Though some non-academic services such as transportation, counseling, and health and nutrition programs are funded through Chapter 1, reading and mathematics instruction are the most commonly provided services (Anderson, 1992).

Most Chapter 1 programs follow one of five service delivery models: in-class, limited pull-out, replacement, add-on, or schoolwide. Because regulations require that Chapter 1 programs "supplement and not supplant" regular education services, and because, until recently, Chapter 1 funds had to be targeted only to eligible students, pull-out has been the strategy most widely used (Slavin, 1989; Birman, Orland and Jung et al, 1987; Natriello, McDill and Pallas, 1990). Under this model, students who are having difficulty in a particular subject typically are removed from their regular classrooms for thirty to forty minutes per day to participate in subject-specific, small-group remedial instruction.

Stein, Leinhardt, and Bickel (1987) cite several disadvantages to the pull-out approach, including lack of coordination between what students learn in their regular classrooms and what they learn in the pull-out programs, disruption and wasted time spent traveling to and from pull-out classes, and diffuse responsibility for individual children. While Rowan and Guthrie (1989) find no evidence that pull-out programs at the elementary level were inferior to other models of Chapter 1 service delivery in terms of group size or amount of direct, interactive instruction, they also find that such programs often take away instructional time from other academic subjects.

Several evaluations of the Chapter 1 program conducted in the mid-1980's, including the longitudinal Sustaining Effects Study (Carter, 1984), concluded that Chapter 1 programs displayed modest positive effects on students' reading and math skills, but they were less effective for the most disadvantaged children. In any case, the gains overall did little to close the gap between disadvantaged students and their more advantaged peers. Moreover, students' progress was rarely sustained beyond two years after participation in the program (see the studies summarized in Natriello, McDill, and Pallas, 1990, pp. 72-78).

Current Tensions

Tracking, retention, special education, and Chapter 1 programs are primary ways in which schools have attempted to respond to diversity and the needs of underachieving students. The general theory underlying each of these strategies is that they accommodate student diversity and support increased learning by matching instructional contents to students' knowledge levels, thus providing learning environments best suited to individual students' learning needs. In practice, however, research evidence shows that these strategies may do more to limit than increase learning opportunities and overall achievement of students at risk. Lower-track and retained students and students with only mild academic handicaps are all likely to experience learning environments that not only carry a stigma, which may negatively affect their self-concept as learners, but that also may be less stimulating and less likely to provide them with opportunities to develop higher-order thinking and problem-solving skills. However, such approaches are widespread and, more often than not, uncritically applied.

In our review of current and emerging strategies, we find tensions emerging from the knowledge base of nearly thirty years of practice -- tensions that question traditional responses and indicate a shift away from the deficit model that has guided compensatory education. For example, the practice of *remediation* is being challenged by a powerful policy of *prevention* in early childhood. *Remedial* or *special education* programs that have focused on improving *basic* skills are now encouraged to emphasize *higher-order* thinking and *problem-solving* skills. Acknowledging that students must be engaged in the culture of the school as well as challenged academically, an emerging emphasis on mainstreaming and whole-school restructuring is calling into question the often-used approach of pulling children out of their regular programs for special instruction. Finally, in response to increasingly diverse student populations, many educators are calling for less emphasis on compensating for what poor children and children of color lack, and greater emphasis on pedagogical techniques that make use of the students' strengths and sociocultural experiences as stepping stones for further learning.

While these emerging strategies challenge traditional assumptions about educating impoverished students, they do not go uncriticized. Too great an emphasis on early childhood prevention can lead to an overidentification of "problem" students. It also can direct resources away from programs in later grades that are necessary to ensure that children's academic gains do not "fade out" as they progress through school. There also are practical questions as reforms are phased in at one level of the education system but not in another. Similarly, though higher-order thinking skills may be at a premium in the workplace, state competency tests continue to emphasize mastery of basic skills; teachers are still reinforced to teach to the test. Finally, whole-school restructuring strategies may pull resources away from the neediest students. While doing away with the deficit model may have positive effects on students' cognitive and emotional development, alternative approaches must not fail to acknowledge the very real disadvantages that may impair many students' learning.

Compensatory education is no monolith. The 1980s have seen the maintenance of traditional approaches combined with new approaches that may subvert the meaning behind the term "compensatory" itself. The strategies and programs outlined in the following review reflect some of these tensions. While there is much that is promising, there is also a dearth of well-designed studies to assess the effectiveness of many of these programs. Only a commitment to rigorous evaluation of the effects of these various strategies will provide the evidence necessary to determine what, in practice, does and does not work.

CHAPTER 8

EMERGING STRATEGIES

Changes in Chapter 1

The size and scope of Chapter 1 make the program an important bellwether for change in compensatory education. Chapter 1 was reauthorized in 1988 under the Hawkins-Stafford Elementary and Secondary School Improvement Amendments, which were touted as the first "education-based" reforms to Chapter 1. The Amendments were designed to increase accountability for student performance, provide opportunities for greater flexibility in pursuit of improved performance, stress higher-order thinking in addition to basic skills, and increase emphasis on parent involvement. One of the most significant changes brought about by the new legislation was the provision for greater flexibility in the coordination of Chapter 1 resources with the regular school program by enabling schools with 75% or more students eligible for a free lunch to use Chapter 1 funds for school-wide programs (LeTendre, 1991).

Winfield (1991) articulates both the potential and the challenges inherent in several Chapter 1 school-wide projects (SWP's). In these programs, specialized SWP personnel assist schools in integrating site-based management, effective instructional strategies, and increased parent involvement. Teachers and principals report that the flexibility of the SWP enables them to create more effective learning environments for all the students on their campuses. Winfield cautions, however, that the success of the SWP option depends (1) on adequate support for change at the central office and (2) on the availability of adequate resources for on-site assistance, more intensive professional development, and high-quality educational interventions for underachieving students.

One specific implementation of an SWP is at the Santa Domingo School in rural New Mexico, which serves a disadvantaged American Indian population and where 97% of the students are eligible for free or reduced-priced meals (de Baca, Rinaldi, Billig, and Kinnison, 1991). In an effort that coordinated all funding groups supporting the school, several strategies were applied, including staff development, the elimination of pull-out programs, sharp reduction of student/teacher ratios, implementation of early prevention programs, implementation of summer school programs, and the installation and use of two computer laboratories.

This integrated effort succeeded in increasing overall achievement test scores in reading 3.1 Normal Curve Equivalents (NCE's) per year for Chapter 1-eligible students and 7.1 NCE's per year for all students. Writing, school attendance, student self-esteem, and parent involvement all improved markedly, while special education referrals, discipline problems, and vandalism decreased. Teachers used collaborative decision-making approaches and reported interacting with one another more frequently with positive results. The SWP provided Santa Domingo with "a cognitively clear, systematically structured approach to whole-school change" (ibid., p. 367). Project coordinators observe that identifying all students as Chapter 1 students removes the stigma associated with the "special student" label and creates an atmosphere where the entire school staff, parents, and community members feel shared responsibility for student learning.

Few argue with the intent of the Hawkins-Stafford reauthorization to provide for greater flexibility in the use of Chapter 1 funds and to encourage a focus on student outcomes. Few also would take issue with the way in which schools such as Santa Domingo are taking advantage of this flexibility. The program improvement mandates accompanying the bill, however, have been the subject of some criticism. Under the new program improvement requirements, schools that are not making sufficient progress toward bringing students up to grade-level performance must recast their programs so that they will produce measurable gains in student progress. On the face of it, this is a reasonable, even laudable goal. However, several researchers argue that the requirements may have a variety of negative effects, stemming from potential error in identifying schools "needing improvement," stigmatized feelings on the parts of those programs so identified, an evaluation model that encourages the use of standardized tests and that relies heavily on student gains measured in Normal Curve Equivalents (NCE's), possible greater incidence of retention in order to boost test scores, and an increased tendency by schools to focus on narrow instructional objectives that are easily measured (Clayton, 1991; Slavin and Madden, 1991; Stringfield, Billig and Davis, 1991; Fagan and Heid, 1991; Miller, 1992).

Chapter 1 is up for reauthorization again in 1993. Partly in preparation, the Department of Education is undertaking a number of evaluations of various aspects of the program to assess the quality and delivery of services and to identify exemplary programs and practices. This evaluation plan includes a mandated longitudinal study that will compare the effects of Chapter 1 programs on students over time using other programs and regular instructional programs as comparisons. This and other evaluation plans are summarized in Plisko and Scott (1991).

Early Prevention

A view that prevailed during the 1960s, that early intervention programs targeting very young children provided the most cost effective compensatory education for disadvantaged youth, enjoyed a comeback in the 1980s as educators and policymakers supported programs designed to ensure that students enter and progress through school "ready to learn." There may be a tendency to overemphasize the advantages of early intervention (Woodhead, 1988; Natriello, McDill, & Pallas, 1990). However, early childhood programs can help provide a firmer foundation for later school success. Slavin, Karweit, and Wasik (1991) explore the effects of the most widely known intervention programs. Below we examine one preschool, one kindergarten and one elementary school program.

Preschool. Preschool and kindergarten environments that are developmentally appropriate and provide learning experiences that develop the children's language and symbolic competencies can help poor children enter school at the same level as their more advantaged peers. Head Start, created in 1965, was the first national program for preschoolers and today remains one of the most well-known and politically popular. Since 1965, Head Start has served a total of 12.5 million children, and in 1991 the program received nearly $2 billion to operate approximately 1,350 projects serving over one-half million children nationwide (U.S. Department of Health and Human Services, 1992). Head Start provides participating youngsters with a diverse array of academic and social services.

The effectiveness of Head Start has been a somewhat controversial issue. In 1985, CSR, Inc., carried out a review/meta-analysis that synthesized over 200 separate evaluations of the program conducted over a 20-year period. They concluded that Head Start does show some statistically significant effects on students' cognitive and socioemotional development. However, the study reported a frequent "fade-out" effect, whereby students' cognitive and affective gains disappeared by the end of the first year of regular school (McKey, et al, 1985). The national Head Start office reports that another comprehensive evaluation of the Head Start program will be conducted in the coming year.

Kindergarten. Approximately 98% of all children attend some form of kindergarten. Researchers have studied both the organizational and curricular features of kindergarten programs to determine their effects on cognitive and affective outcomes in young children. Karweit's syntheses of the research literature in this area show modest evidence that full-day programs are more effective than half-day programs, but they show little evidence that extra-year kindergarten programs provide extra benefits to children, at-risk or otherwise (Karweit, 1987; Slavin, Karweit, and Madden, 1989; Karweit and Wasik, 1992). Karweit (1992a) argues that more lasting effects on children do not come from adding time to the child's kindergarten experience, but rather are brought about by children's participation in learning environments that are both individually and developmentally appropriate and that develop the child's language competencies and understanding of the functions of written and print materials.

Karweit (1989) examined 21 validated kindergarten programs, seven of which are still active -- KITE, TALK, CLIMB, STAMM, Early Prevention of School Failure, KINDERMATH, and the Kenosha Model (in Slavin, Karweit, and Madden, 1989). In a forthcoming article, Karweit (1992a) describes five programs -- KITE, Early Prevention of School Failure, Books and Beyond, Writing to Read and STaR. Of these, KITE (Kindergarten Integrated Thematic Experiences) demonstrates the largest effects on students' reading and mathematics performance. KITE incorporates two well-evaluated programs, Astra's Magic Math and Alphaphonics, to provide students with a kindergarten day integrated around a theme that emphasizes language and cognitive, physical, and socioemotional development. An evaluation that involved random assignment of students to KITE and follow-ups of their performance through the third grade showed significant and large effect sizes. In comparison to the control group, KITE students gained approximately twenty-five Normal Curve Equivalents (NCEs) to the control group's six (Slavin, Karweit and Wasik, in press).

Success for All. Approaches in the elementary grades that deliver extra intensive academic help to students when they most need it have been found to have substantial positive effects on students' mastering of reading and comprehension abilities (De Ford et al., 1987; Madden et al., 1991). Success for All is an elementary school restructuring program that takes advantage of the new option to use Chapter 1 funds for schoolwide projects. The goal of the project is to do everything necessary to ensure that all students will perform at grade level especially in reading, but also in writing and mathematics by the end of third grade. Strategies used in the program include one-on-one tutoring, regrouping for reading, a family-support team, frequent assessments of learning with immediate help on problems, and individual academic plans for each student. The program primarily serves high-minority, low-income student populations and currently is being implemented in 31 schools in 12 states.

In the first year evaluation of Success for All, participating children outscored a matched control group on multiple measures of reading readiness and reading comprehension. Reading gains were especially large for students in the lowest 25%, as determined by pretest scores (Slavin, et al 1989). In the most recent program evaluation, Madden et al. (1993) report sustained gains in reading and substantial reductions in student retention and absenteeism. While not all Success for All students were reading at grade level by third grade, only 15.7% Success for All third graders (including all students who would ordinarily be assigned to special education) were still performing at least one year below grade level, compared to 38% of third graders in control schools. Only 3.9% were two years behind in Success for All schools, compared to 11.7% in control schools. The results of Success for All are promising. As is the case with all early childhood programs, however, follow-up studies that show how participating children fare in later school experiences are needed to determine whether such programs provide the "booster" shot needed to protect students against future school failure.

Multicultural Education

Multiculturalism has been the subject of enormous debate in recent years (*American Educator*, 1991a; Ravitch, 1990). The idea of "multicultural education" has most often been associated with specific changes in curriculum. Proponents decry the Anglo-centric bias of traditional learning materials and argue for the integration of more diverse, positive images, historical role models and, in general, a more balanced view of history that represents the experiences and perspectives of marginalized groups. In 1989, a Task Force on Minorities appointed by Thomas Sobol, Commissioner of Education for the State of New York, submitted a report calling for "change toward a 'curriculum of inclusion'" (Sobol, 1990, p. 28). Predictably, the report quickly created a maelstrom of controversy that has continued to the present. In July 1991, the New York Board of Regents approved revised written recommendations submitted by Commissioner Sobol (Viadero, 1991). Critics of the multiculturalism movement view the kind of curriculum program adopted in New York as potentially divisive and even "anti-American" because it encourages students to seek their primary identity in a particular ethnic group rather than in a united American culture (Schlesinger, 1991; Bennet, 1991). Another version of such criticism is found in Ravitch (1990), which distinguishes between "pluralistic" and "particularistic" multiculturalism and argues for the former on the grounds that it is most likely to result in a curriculum that reflects both multiculturalism and the common culture -- "the pluribus and the unum" (Ravitch, 1991 - 1992, p. 11).

While the public's attention to multiculturalism has focused on balancing curriculum content, Gottfredson, Nettles, and McHugh (1992), in the first report of their evaluation of Pittsburgh's Prospect Middle School's Multicultural Education Center, outline four additional elements of multicultural education: 1) personal development and interpersonal relations of students; 2) fair and effective approaches to individual differences in learning styles that are believed to be linked to cultural influences; 3) multicultural representation in the entire school environment, including staffing, and 4) equal opportunity to learn for all groups. Prospect Middle School has adopted a multicultural approach to restructuring that incorporates not only multicultural curriculum, but cooperative learning and conflict resolution techniques, staff development, parent and community involvement, and, notably, the elimination of tracking. Though a full program evaluation is not yet available, the Prospect program shows promise in meeting the substantial challenges facing multicultural restructuring efforts.

Another aspect of multicultural education is the issue of bilingual education, which also has been embroiled in controversy and debate since the passage of the federal Bilingual Education Act in 1968. The conflict can be seen in the English-only movement versus the English-Plus coalition (McGroarty, 1992), in proposals for a bilingual immersion program in which "both language-majority and language-minority students learn each others' languages while continuing to develop their own," (Cziko, 1992), and in the alternative perspectives on how bilingual education should be offered in schools, i.e., either as a tool to help minority students assimilate into the American mainstream, or as a second-language acquisition that adds to the linguistic resources an individual already possesses (Pease-Alvarez and Hakuta, 1992).

For many educators, it is common sense that students can be expected to pay closer attention to classroom learning materials that include role models from their own ethnic or cultural backgrounds or that build upon knowledge they already possess. Personal identification with classroom topics and teacher/staff role models can be important not only for generating immediate interest in the learning activities at hand, but also for building self-esteem (based on recognizing that the school understands and values the student's own background, language and experiences). Regardless of how some of the controversial issues are resolved, the multicultural and bilingual approaches will work best in schools that value and make use of the strengths and experiences of each child's background.

Changes in Curriculum

The content, purpose, and organization of courses and activities shape every student's school experience. In addition to multicultural education efforts, other initiatives reject the special education model of offering more of the same content at a (perhaps) slower pace by making the school curriculum more engaging and relevant. These efforts generally focus on developing content that relates to the student's current interests and life experiences or by combining vocational with academic tasks.

Real-world learning. A number of curriculum projects have been developed that focus on real-world experiences for the learning content. Examples include the microsociety school (Richmond, 1989), experiential learning projects (Blumfield et al., 1991; Erickson and Shultz, 1992; Means et al., 1991), Action Learning Projects from Minnesota's Project Together (Daniels, 1983), the Foxfire student publishing experience (Wigginton, 1989), the Algebra Project (Moses et al., 1989), and various community service programs (Coleman et al., 1974; Nettles, 1991a,b; Newman and Rutter, 1985-86; Schine, 1988). At the same time, comprehensive plans are being pursued by major national groups to completely restructure the curriculum for active student learning of higher-order competencies through real-world applications in each major subject across the grades (Jackson, 1992; National Council of Teachers of Mathematics, 1989; Anderson et al, 1985). If all students are to benefit from these developments, resources must be available to implement ambitious curriculum changes in all schools, including those attended by poor children and children of color that presently are not adequately funded for instruction in the traditional curriculum.

Integration of academic and vocational skills. Many middle and high school students are more motivated to work hard if they view classroom learning tasks to be useful in the adult world of work. But traditional vocational education has frequently been criticized as lacking sufficient academic content and failing to prepare students with well-defined marketable skills (ETS, 1990b). These problems have a particularly strong impact on poor children and children of color since they are disproportionately represented in vocational programs (Braddock, 1990).

Proposals for upgrading the quality of vocational education typically involve some variation of the thesis that programs must provide students with a combination of essential academic skills, rigorous vocational training, and on-the-job experience (ASCD, 1990; Bottoms and Presson, 1989). Asserting that "learning to know and learning to do are linked," Bottoms and Presson (1989, pp. 2-3) observe that "allowing students to use academic materials to perform 'real-life' tasks or address 'real-life' problems is appealing as a method for increasing students' motivation to learn higher-level academic concepts in high school." Considerable impetus for the integration of vocational and academic education emanated from the reauthorization by Congress in 1990 of the Carl D. Perkins Vocational Act, which pressed states and local school districts to achieve such a merger. One of the most ambitious efforts to integrate academic and vocational education is the thirteen-state Vocational Education Consortium of the Southern Regional Education

Board, which involves thirty-three secondary schools (Bottoms and Presson, 1989; Educational Testing Service, 1990b).

In an empirical survey, Grubb, Davis, and Lum (cited in National Center for Research in Vocational Education, 1991) studied more than seventy secondary schools around the U.S. and identified several different models for integrating vocational and academic materials. These models include merging of faculties and course content and creating academies or major programs within a school that focus on a general cluster of careers. Unfortunately, evaluation data for these programs are not available; the diversity of these programs may provide useful information and strategies that can be applied in other settings, if the implementers can be convinced to incorporate evaluation as part of the overall program models.

Changes in Instruction

Accompanying changes in the curriculum designed to make it more engaging for students at risk are changes in traditional forms of instruction. In general, these instructional strategies entail a movement away from the passive teacher-lecture/student-listen mode of instruction to a more active arrangement of learning activities. They also suggest that effective "instruction" can take place within and outside of the classroom and that a personal connection with a "teacher" can make a difference in whether a student succeeds or fails. Specific strategies include the involvement of non-traditional teachers such as mentors and race/sex role models, adult and cross-grade peer tutoring, and integrating technology as a tool for instruction.

Adults as mentors or advocates. A widely publicized approach to providing students at risk with the support of a caring adult during the middle and high school grades is to use volunteers from the community as mentors or advocates (Flaxman, Archer, and Harrington, 1988; Freedman, 1988, 1991). Although terminology differs in various programs, *mentoring* is commonly defined as a one-to-one relationship between an adult volunteer and a student who needs support for achieving academic or personal achievement goals. *Advocacy* is usually defined as a continuing set of relationships between an adult (volunteer or paid) and members of a group of students, in which the adult provides support and services by intervening on a student's behalf, monitoring participation in programs, or brokering additional services (McPartland and Nettles, 1991).

Research indicates that using outside adults as mentors or advocates can have modest positive effects on a limited range of student outcomes. A well-designed program may help some students at risk develop more positive attitudes toward school and related behaviors such as good attendance. However, it seems too much to expect these sorts of programs to achieve reliable short-term effects (i.e., less than one academic year) on student academic achievement as measured by standardized tests, or to see dramatic turnarounds by students who have been failing courses or have serious discipline problems. The successful mentoring relationship usually requires continuing contacts (such as weekly face-to-face sessions) and mutually satisfying activities with some discussion of serious issues. Unfortunately, mentoring and advocacy programs have great difficulty in locating and training large numbers of adult volunteers who have the time and commitment to sustain working mentor relationships with needy students (McPartland and Nettles, 1991; Freedman, 1988, 1991).

Having staff also serve in a mentor or advisor role for middle or high school students overcomes the need to depend upon outside volunteers and can increase the value of in-school relationships. However, resource and scheduling issues are not easily resolved. A frequent approach is to establish a homeroom-advisory period that meets several times each week to discuss a variety of school, character, and career topics in a group setting, with time sometimes allocated for individual adult-student advisory conferences. A few impressive case studies suggest that homeroom-advisory functions may be the keys to creating positive climates in middle or high schools (Maeroff, 1990; Lipsitz, 1984; Lightfoot, 1983). Recent analyses of data from a national survey of middle schools, however, provide no clear evidence that these interventions result in positive student perceptions of teacher-student relations, suggesting that the typical homeroom-advisory period today may be similar to the traditional superficial homeroom period, providing few new opportunities for contacts between individual students and caring adults at the school (McPartland, 1992). Obtaining the desired effects may require that more regular class time be set aside for useful one-on-one adult-student discussions and that more training be given to staff on how to create relationships of trust and support as part of the advisory function.

Race-sex role models. The multiple, serious problems of the young African-American male in American society -- e.g., high rates of school failure, imprisonment, unemployment, and crime victimization -- are well-documented (U.S. House of Representatives Select Committee on Children, Youth, and Families, 1989; Gibbs, 1988). Such problems have prompted the development of various approaches to providing more positive role models for school-aged African-American male students (Ascher, 1991). These include African-American male classroom teachers for elementary grade classrooms of black male students, mentoring programs using African-American male adults from the community, and peer tutoring approaches using older students to help young students of the same race and sex. These approaches have been widely reported in the mass media (Cooper, 1990; Holland, 1987; Lawton, 1990; Merwin, 1990; Southern Education Foundation, 1990; Tifft, 1990), but no careful research has assessed their impact on students. The important questions raised in Ascher's (1991) descriptive review of twenty-two programs for African-American male students do represent a start in this direction.

In spite of the lack of evaluation, there is reason to believe that adding positive race-sex role models may be particularly important to school-aged African-American males (Fordham and Ogbu, 1986). However, such programs are the object of controversy on civil-rights grounds. Because they often purposely segregate students by race and/or sex, they are sometimes charged with violation of federal and state statutes that prohibit single-sex, single-race enrollment standards. As a result, programs of this type may be forced either to modify such criteria or discontinue operation. Further, these programs have generated considerable controversy among veteran civil-rights organizations because of claims they may lead to tensions between African-American males and females and may provide support in the larger society for white supremacy advocates (NAACP Legal Defense Fund, 1991, cited in Ascher, 1991, p. 14).

Other sex and ethnic groups -- African-American females (Butler, 1987), females of all race-ethnic groups (American Association of University Women Education Foundation, 1992), and Hispanic youth of both sexes (Pease-Alvarez and Hakuta, 1992) -- have also been the subject of special projects to enhance their chances of school success through use of role models and other program improvements.

Peer support. A student's peer group will almost certainly be a powerful influence on attitudes and behaviors in school, since status and acceptance from others in the same age group become very important through early adolescence and young adulthood. But the peer influence can be either positive or negative with regard to the school's goals of hard work on classroom learning tasks, depending upon the norms that develop within the various friendship groups to which a student may be attached (Epstein and Karweit, 1983). Indeed, a negative peer influence on school work is often likely to develop because of the pressures against raising the curve in the competition for good grades (Coleman, 1961), tendencies to resist adult authority and goals during adolescence (Elder, 1968), and pressures on young people of color to keep from appearing to adopt the school priorities of the white majority (Fordham and Ogbu, 1986). Several approaches have been encouraged to provide positive role-models in schools and to structure classroom tasks and rewards that encourage peer support for academic efforts.

One strategy to assist students during the transition between elementary and middle school or between middle and high school is to pair each entering student with an older student at the school in a peer-mentor relationship that begins the first day of school for the newcomer and lasts throughout the year. In a recent experiment in a racially mixed Baltimore middle school, the older student mentors were trained for their mentor responsibilities -- with communication skills, conflict resolution and community service concepts -- and then were carefully matched with incoming students and scheduled to participate in weekly activities with their mentee, including checks on tardiness and absence patterns, tutoring, and community service projects (Spilman, 1990). In other examples, incoming students with previous attendance or discipline problems are assigned older peer mentors who have been trained to establish and maintain supportive contact throughout the term. Evaluations are not yet available on the impact of these approaches for reducing student problems during transition grades, but the positive evidence cited earlier for other peer-tutoring programs seems relevant.

Cooperative learning is another strategy that utilizes the peer group to attain academic and pro-social goals. As described earlier, cooperative learning usually involves students working in small teams to accomplish a group goal, such as earning points on classroom tests that count in a classroom competition with other teams. Classroom competition is structured between teams so that each student's individual efforts contribute to a shared group goal, rather than raising the stakes for good grades under the usual classroom competition among individual students. As a result, peer norms are shifted to encourage classroom efforts of individual students rather than discouraging them. An extensive set of careful evaluation experiments confirms the positive effects of these forms of group effort on individual student achievement and peer group acceptance of team members (Slavin, 1990).

Tutoring. One-on-one tutoring is a powerful strategy for providing extra help to disadvantaged youth at all levels. With the recruitment of adult volunteers and various peer-tutoring strategies, school systems are able to provide many underachieving students with the type of one-on-one instruction formerly available only to more privileged segments of society (Cohen, Kulik, and Kulik, 1982).

Reviews of peer-tutoring studies that examine same-age and cross-age strategies show that peer tutoring contributes to the achievement of both tutors and tutees

(Natriello, McDill, and Pallas, 1990, pp. 89-90). Cohen et al. (1982) conducted a meta-analysis of 65 studies and concluded that peer-tutoring has modest positive effects on both the tutors' and tutees' attitudes toward the subjects being taught and their performance in those subject areas, especially when the programs were highly structured. The advantage of highly structured programs in which student tutors are given explicit instructions is also documented by Slavin (1986).

There has been some controversy over the relative effectiveness of tutoring compared with other types of interventions -- reduced class size, computer-assisted instruction (CAI), and an extended school day. Levin, et al. (1984; 1986) find that peer tutoring is the most cost-effective strategy for reading and math achievement, while Niemiec, Blackwell, and Walberg (1986) argue that CAI is the most cost-effective. Wasik and Slavin (1990) conducted a "Best Evidence Synthesis" of five programs using adult tutors to prevent reading failure in the early grades: Reading Recovery, Success for All, Prevention of Learning Disabilities, the Wallach Tutorial Program, and Programmed Tutorial Reading. These programs were shown to have more positive effects on student achievement than reduction of class size and student/adult ratios.

Technology. The potential of technology to transform, even revolutionize education has been a source of speculation since the advent of computers in the 1960's (Suppes, 1966). Thirty years later, although many observe that the promise of technology has yet to be fulfilled (Mecklenberger, 1990; Foster, 1990), it continues to be viewed as a catalyst for change in schools (Bell and Elmquist, 1992; Braun, 1990; NFIE, 1991). Numerous studies and reports examining how technology is being integrated into classrooms and schools (OTA, 1988, 1989; Sheingold and Hadley, 1990), its impact on student learning (Becker, 1987), and its importance for educational restructuring (Sheingold and Tucker, eds., 1990), identify technology as a key component of the nation's education reform agenda.

Many practitioners also assert that information-age technologies hold particular promise for educating students at risk. A special issue of *Electronic Learning* (1988) identifies several ways in which technology can help teachers and administrators meet the challenge of educating students at risk: technology is "empowering and motivating," a self-paced and ever-patient tutor that provides immediate feedback; it enables students to create high-quality products of which they can be proud; it helps train them for a technology-rich workplace; it can be deployed to create more flexible learning environments that accommodate students who learn in different ways, such as students with mental or physical handicaps or children for whom English is a second language. Technology can give teachers and administrators more time to plan and interact one-on-one with students; advanced information systems can provide teachers with ongoing information about student progress, even when students transfer to another school or district; and telecommunications technology can expand educational opportunities, providing rural and other schools with access to courses and real-world data of which they would otherwise be deprived.

Similar claims of technology's potential are echoed throughout the literature, yet, few studies examine its actual effects on learning outcomes for students at risk. Data from a national survey indicate that the most frequently reported effects of computer use on low-ability students are in behavioral and attitudinal areas such as motivation, self-confidence, and self-discipline (Becker, 1986). An analysis of these same data reports that lower-ability students are more likely to use computers for developing basic skills in math, reading, and language, and that students in low-SES schools and rural schools are more likely to spend more computer time on drill and tutorial programs than those in high-SES metropolitan schools.

In an effort to move away from simple drill and practice programs for underachievers, the Vanderbilt Learning Technology Center and its Cognition and Technology Group have investigated the potential of interactive videodisk technology to improve learning for children at risk. This ongoing research is grounded in the knowledge base of cognition and child development and identifies active engagement and the need for a learning context accessible to the child as essential to successful learning

(Johnson, 1992). Empirical findings from this research show improved comprehension and ability to make inferences when information is presented to the students through videodisk rather than traditional oral format.

The Higher-Order Thinking Skills program (HOTS) also eschews drill and practice in favor of developing problem-solving and conceptual skills. HOTS combines software with special curriculum and instruction strategies to create a stimulating learning environment for students at risk. For 35 minutes each day, students at risk are challenged by trained teachers to think in more sophisticated ways and to develop hypotheses and strategies for solving problems (Pogrow, 1990b). HOTS has not yet been evaluated with an experimental design, using a randomly assigned or even matched control group. However, there are encouraging signs based on comparing HOTS student gains to tabulated national norms (Pogrow, 1988, 1990a).

One barrier to the effective use of technology for students at risk is that students' exposure to technology-rich learning environments may be cut short when they advance or transfer to a school where technology is not effectively deployed. This problem was identified by researchers evaluating the lasting effects of the Apple Classrooms of Tomorrow (ACOT) program in Memphis. While the ACOT program is not specifically geared toward students at risk, the program in Memphis served a 100% minority student population in an inner-city elementary school, most of whom were low achievers. Students were given computers on their desks at school and computers to use at home.

Using small, non-random experimental and control groups, Ross, Smith, and Morrison (1991) conducted a follow-up study that examined the achievement and adjustment of 7th-grade students at risk in the school year following their participation in the Memphis ACOT program as 5th and 6th graders. This study showed that ACOT students outperformed control students on fall and spring CAT math and reading tests and in keyboarding skills. However, there were no significant differences between former participants and control students on measures such as grades and teacher ratings. The researchers attribute this to the fact that once the ACOT students left the technology-rich, student-centered environment for a school where computer availability was limited, they were unable to transfer the skills they had learned. They conclude that these students "remain at-risk in middle-school grades, despite their positive accomplishments in the ACOT classes" (Ross, Smith, Morrison, 1991, p. 43).

Though there is a paucity of evidence, the programs and studies described above suggest that technology can be used effectively to improve academic achievement for students at risk, and indeed, for all students. However, it is clear that technology costs and that schools with few resources will have difficulty providing their students with equal access to technology-rich learning environments. Moreover, effects will remain limited so long as programs are implemented only in a few classrooms in the school and are not part of school-wide or district-wide change efforts (David, 1991). Maintaining access to technology throughout the student's school career, integrating technology so that it is available for all kinds of learning, and deploying uses of technology that move away from traditional teaching and learning methods are necessary components of a successful technology strategy for educating students at risk.

Changes in Assessment

Critics of conventional testing and assessment methods argue that such assessment tools as standardized, objective tests often do more harm than good, especially for underachieving students. Alternative forms of assessment and reward structures are being proposed and developed. These alternative assessment strategies are designed to have students demonstrate what they have learned rather than how well they take a test, and to motivate rather than discourage students who start out well below average. Although such approaches are not widely utilized at this time, there is growing interest in them.

Alternative assessment. "Alternative" or "authentic" assessments have become catch-words of the current reform movement. Standardized and other short-answer tests are criticized for being biased in favor of white, middle-class children, for encouraging the teacher to "teach to the test" rather than to the child, and for emphasizing low-level skills and piecemeal knowledge rather than student understanding and performance. Forms of evaluation that test how much students know at a single point in time are being challenged by those arguing for assessment procedures that demonstrate how well students think and how well they articulate their ideas in a variety of media.

Alternative forms of assessment may offer new opportunities for success to students at risk for several reasons. Some students may not be able to demonstrate what they have actually learned on objective tests when the test assumes other skills in which they are weak, or the test situation does not encourage them to try hard. For example, a mathematics test with many word problems will be unfair to Limited English Proficient students and other young people who are poor readers but who have actually mastered the math problem-solving skills being tested. Also, many older students with a personal history of low scores on standardized tests may no longer strive to do well on current tests or may be deterred by high test anxiety.

Conventional tests may also short-change students who have a deeper command of the subject that is never called upon in the multiple-choice or short-answer forms typically used. Even when understanding is better measured by essay exams or term papers, students with poor writing skills will have difficulty showing what they have learned in a course. Such students may register their academic successes only through alternative forms of assessment. Examples of potentially better assessment methods include oral interviews, science experiments, portfolios of students work over an extended period, public exhibitions where students answer questions on their senior projects, and performances of skills in simulated situations (Perrone, 1991; Wolf et al., 1991; U.S. Congress, Office of Technology Assessment, 1992).

Although interest is now very strong in federal and state agencies to create new assessment methods, and several well-financed development projects are currently underway (see Gentile, 1992), it is still unclear how the interests of students at risk will fare in this area. The prospects of new, uniform high achievement standards and assessment methods are to be welcomed as long as all students are given the opportunities to demonstrate advanced skills. But the question remains whether the resources will be provided to deliver these opportunities to all students, including those in many urban districts that are, at present, seriously underfunded (Natriello, McDill, and Pallas, 1990).

Recognition for progress. In addition to restricting the ways in which students demonstrate what they have learned, traditional assessment methods can be insensitive to the actual achievement or progress of individual students, particularly students at risk. As MacIver (1991) asserts, "traditional evaluation systems often do not adequately recognize the progress that educationally disadvantaged students make, because even dramatic progress may still leave them near the bottom of the class in comparative terms or far from the 'percent correct' standard needed for a good grade" (p.4). Individualized incentive and reward structures that value students' incremental improvements can motivate students to try harder, foster an intrinsic interest in the subject matter, and improve performance.

The Incentives for Improvement program is implementing such an evaluation and incentive system in four Baltimore public schools. Through the program, teachers help students develop "specific, individualized, short-range goals that are challenging but doable" based on the students' past performance (MacIver, 1991, p.5). Students receive certificates and other awards for improvement as well as for high levels of achievement. Using a non-randomized, matched control group, pre-test/post-test design to evaluate the program's effectiveness for student performance and on student's motivation to learn, students participating in the program on average received higher grades and had a 10% higher probability of passing than did control students. A modest positive impact on students' perceptions of the intrinsic value of the subject matter as well as overall student efforts also were found, although no effects on students' self-concept of their own ability were shown as a result of the program.

Organizational Strategies

The way in which schools and classrooms are organized has an immediate impact on students' educational experience. One of the most obvious aspects of school organization, ability grouping or tracking, was discussed earlier in this review. Other aspects such as school size, departmentalization, and organized connections to the world beyond school are also important to consider. Below we examine alternatives to aspects of school organization that have been found to have a negative impact on the learning of students at risk.

Alternatives to large schools. Extensive research evidence indicates that a supportive climate for learning can be severely damaged by the very large secondary schools that are typical of the major urban and suburban districts where many students at risk are enrolled (Toch, 1991; Gottfredson and Gottfredson, 1985; Bryk and Thum, 1989; Maeroff, 1992; Barker and Gump, 1964; Diprete, 1982; Garbarino, 1978, 1980; Morgan and Alwin, 1980). In contrast to small schools in which most teachers and students know each other and will recognize a problem when it arises, adult control and supervision and students' senses of belonging and responsibility are not developed as readily in large schools. For this reason it is often argued that larger schools tend to have more discipline problems, lower percentages of students who actually participate in school clubs and activities, and more student feelings of estrangement and alienation.

There is no evidence that new, smaller schools are now being constructed for the middle and high school grades, but many smaller units are being created within larger schools. Some community school districts in New York City, for example, have developed "schools-within-schools" in which a single building may contain up to five smaller separate schools -- including elementary, junior high, special education, and special programs for troubled youth. The separate schools share the building's gym, labs, and studios, and older students from one unit may tutor younger students from another unit. Other examples include the "house" system in Columbus, Ohio, in which groups of

250 high school students remain together in largely autonomous units for their high school careers, and self-contained "academic units" within Philadelphia high schools that have a special vocational-academic focus (Toch, 1991; Fine, 1992). While these programs are promising, Maeroff (1992) notes that opportunities for sustained, close, positive contacts between students and teachers will only be achieved if such arrangements are more than administrative units that change each year for particular students and have no programs of adult guidance and support for individual students.

Alternatives to departmentalization. Most American middle and high schools, and many elementary schools, are departmentalized -- students receive daily instruction from several different teachers because each teacher specializes in a single subject. This practice is nearly universal in high schools and almost as common in the middle grades; it is often reinforced by certification regulations that stipulate only specialized teachers may be used in the secondary grades. The rationale for such regulations is that the instructional content of each academic subject in the secondary grades requires teachers who are experts in the area, and that instruction will be of higher quality when teachers can take special pride in their subject-matter discipline and can concentrate on preparing a limited number of outstanding lessons each day that are offered to several different classes. Although research supports some of the instructional benefits of departmentalized staffing, the risks that many students will not encounter a climate of caring and support have been more strongly documented (McPartland, 1990; Bryk, Lee, and Smith, 1990).

Positive teacher-student relations are made more difficult by departmentalized staffing arrangements in the typical, large, middle or high school for several reasons. The logistics of student-teacher contacts in the departmentalized school make it difficult to provide the individual attention or close relationships that many young adolescents need. A teacher who provides daily instruction to several different classes of students cannot get to know well the needs of each individual or to intervene with individualized programs for all who may need them. Students who change teachers for each period of the day will not relate to any of their teachers as strongly as when only one adult is in their classroom, as in earlier grades. Also, specialized teachers may adopt a different orientation toward their responsibility for student success. In the earlier grades, teachers are likely to adopt a "student-orientation" in which they take a broad view of the education of the "whole child" and assume a personal responsibility for the success of each individual in their class. On the other hand, teachers in the departmentalized setting of later grades are more likely to take on a "subject-matter orientation." These teachers may tend to have a professional identity with others in their field and may seek to maintain higher standards in their teaching and expectations for student performance that may detract from their feelings of personal responsibility for student success.

Recent research indicates two structural approaches may help to offset the negative effects of departmentalized staffing. The first is a form of "semi-departmentalization" in which the number of different specialized teachers assigned to each student in middle and secondary grades is limited. Analysis of national middle school data indicate that semi-departmentalization promotes a more positive teacher-student climate than fully departmentalized schools, but precautions may be needed to ensure that high quality instruction is still provided in each subject area (McPartland, 1990).

A second, and more common, way to offset the negative effects of departmentalized staffing is to implement interdisciplinary teacher teams that have specific team-member responsibilities for the success of each student. During regularly scheduled team planning periods, teachers can identify students who need special attention and follow through by providing extra academic help and coordinating problem-solving approaches with students and their families. Teams may be especially effective when combined with a teacher-advisory function in which every teacher is assigned a manageable number of students in the school as his or her particular responsibilities for advice and individual support. Evidence from national data on middle schools shows that interdisciplinary teacher teams in departmentalized schools usually contribute to more positive school climates (McPartland, 1991). Qualitative evidence also supports the potential advantages of interdisciplinary teams and adult-advisors to offset some of the threats to a more personalized, supportive climate in the departmentalized middle school (Robinson, 1991; Lipsitz, 1984; Merenbloom, 1986; Arhar, 1992; Alexander and George, 1981; MacIver, 1990; Maeroff, 1990; Connors, 1992).

Alternatives to tracking. As noted previously, a pervasive structural feature of American middle and secondary schools that often constitutes a major barrier to a positive school climate for disadvantaged students is "tracking" -- the separation of students into different schools, programs, courses, or classes based upon recent grades or test scores. Alternatives to tracking include various approaches to limit the use of separate classes for instruction and various methods to make the heterogeneously mixed class work well when tracking is eliminated. Tracking can be limited in several ways including: regrouping in only one or two courses (such as math and reading) while keeping all others randomly mixed; assigning students to track levels on the basis of course-specific data (so that a high-track assignment in one subject and a low-track assignment in another subject can occur for the same student); restricting the number of different track levels in the same course (such as a gifted section and a broad general section); and assignment of extra resources and the most talented teachers to the classes with the most needy students (Braddock and McPartland, 1990).

Research has not determined whether any of these alternatives produces a more positive learning climate for students at risk. Research is more helpful in identifying methods to make the heterogeneously mixed class work well when tracking is not used. Simply eliminating tracking to equalize educational opportunities will produce classes of students with wide ranges of backgrounds and achievements in which special problems of student motivation, teacher effectiveness, and classroom climate must be addressed (Oakes, 1986; Braddock and McPartland, 1990). Student motivation can suffer when earning high grades is too easy for those at the top of the academic distribution and too difficult for those at the bottom. Teacher effectiveness can decline when classroom materials for a whole group lesson are poorly matched to the prior preparation of various students, such as reading matter that is geared to a single grade level when student reading skills range over several grade levels. The classroom climate can also be weakened in a heterogeneous class when discipline problems arise with students who feel they cannot perform acceptably on the assigned tasks.

Experiments to modify the structure of classroom competition indicate new directions for giving all students in heterogeneously grouped classes an opportunity to earn recognition and rewards for academic accomplishments. The basic idea is to establish individual benchmarks from which to calculate student growth, progress, and improvement for rewarding individual efforts at school work. Three studies in the late 1970s (Beady and Slavin 1980; Slavin, 1980) developed practical methods for calculating individual improvement points from regular teacher-constructed achievement tests in English and mathematics and demonstrated the motivational potential of frequent rewards to middle grade students on this basis. MacIver (1991) conducted a controlled experiment covering 54 classes in four inner-city middle schools that showed positive effects of an incentives-for-improvement approach on students' grades and on their self-reported levels of effort and intrinsic interest in the course (see the previous discussion on Alternative Assessment). Besides increasing students' motivation to work hard at learning tasks, these approaches also improve teachers' expectations for students who are below average in current performance by providing the teacher with objective information that these students are capable of making significant progress in their classes. These approaches should not be misinterpreted as lowering standards or as giving away good grades to every student, because, in practice, recognition for individual progress is *added to* other information and does not *replace* existing grades in each subject based on absolute performance standards. Frequent recognition for meeting individually-referenced short-term learning goals can provide powerful motivation for students in an evaluation system that also includes periodic information on other useful achievement standards (Beady, et al; 1981).

Modifications of classroom curriculum materials and learning activities may also help teachers deal successfully with heterogeneous classrooms. There are only a few published examples of such efforts and no formal evaluations of how they work (Epstein and Salinas, 1992). The Civic Achievement Award Program (1989), for middle grades social studies, is a curriculum for U.S. history, geography, economics and civics that contains lessons and classroom activities written at two reading levels (5/6 and 7/8). Individual students in a heterogeneous class can work on the same lessons from this program but at their appropriate reading levels. The Literature Project: Reading for Real (Epstein and Salinas, 1991), for middle grades reading and literature, contains carefully selected literature of high interest for early adolescents from different race-ethnic and gender groups in specified reading-level categories from grades 4 through 9. Similarly, new directions in mathematics instruction -- away from the scope and sequence approach requiring prerequisite knowledge toward a concept-based curriculum framework -- may permit more effective learning activities in heterogeneously grouped classes (Romberg, 1983; Oakes, 1986).

The most commonly used structure to deal with the diversity of students in heterogeneous classrooms -- which can turn that diversity into an advantage -- is cooperative learning. Cooperative learning methods include a number of approaches for heterogeneously grouped classrooms that create roles of high status and responsibility for each student in the class and that establish a positive peer climate for learning (Slavin, 1990; Cohen, 1986). Numerous evaluation studies have shown positive effects for both below- and above-average students on academic achievement and on student acceptance and respect of their peers who come from different backgrounds (Slavin, 1983). Other versions of cooperative learning assign roles to students that emphasize the special strengths or knowledge of each individual, to build status in the group and commitment to group learning goals (Cohen, 1986).

Closer connections with work or college. Schools can also institutionalize direct connections between success in school and the student's future educational and employment opportunities. In this vein, schools can (a) provide better *information* about student behaviors in school to employment agents and college admissions officers; (b) offer specific employment *opportunities* or college financial aid to students who meet particular school performance standards; and (c) include actual college and work *experiences* as part of middle and high school learning activities.

Employers who are hiring recent high school graduates have little information from schools on which to base their decisions (Crain, 1984), even though many aspects of school behavior are useful indicators that a job candidate is dependable, can work well as a team leader or member, or has other special job-related talents. Most students know that their high school record of attendance, grades, test scores, and extra-curricular activities has little meaning in the employment process, so there is little incentive from the labor market to do well on these criteria (Bishop, 1987, 1989). New ways have been proposed for assembling records of academic and non-academic accomplishments and for providing the information in a timely and convenient form in the job recruitment and selection process. Career Passport and Worklink are two examples of such initiatives.

Career Passport is "a formal program that assists youth in developing an employability credential that documents both work and nonwork experiences and the skills, attitudes, and knowledge gained through these experiences" (Charner, 1988, p. 36). The program has two components, the Student Workbook and the Leader's Guide. The former document contains instructions for students to record information in nine work-related areas such as work experiences, education and training, references, and volunteer and community experiences. The Leader's Guide provides detailed information to be used by an adult leader in guiding students in developing their passports (Charner, 1988). Results from an early evaluation (Charner, 1988, p.37) indicate that the Passport has led employers (a) to become more aware of youth employment issues, (b) to report a reduction in their "previous work experience bias" in hiring, and (c) to express a belief that the Passport can help fill the gap in the job application process.

Worklink is a multifaceted information system in an early stage of development by Educational Testing Service (ETS) in collaboration with the National Urban League and the Human Resource Management Center of Tampa, Florida (Educational Testing Service, 1990a, b; Association for Supervision and Curriculum Development, 1990). The project will provide information on volunteering students' educational achievements, workplace-based assessments of skills such as reading and arithmetic, and work-related performances such as attendance and completion of tasks (Educational Testing Service, 1990b, p. 14).

Through Worklink, employers will have access to the computerized data base in order to search for potential employees. The developers of the project plan for students to control their computerized files, which will permit students to determine the occupational fields and biographical information on which they are willing to be evaluated by potential employers. Students will be encouraged to compile their files at their own pace throughout their high school careers. Pilot work on Worklink began in Tampa in 1990. First evaluations of the project sites were planned for 1991-1992.

Many middle and high school students also see little connection between their school behavior and later opportunities for college. In this case the problem is more likely to be an absence of knowledge by students of college admissions processes than a need for better information by colleges about their student applicants. Students often do not know the required courses they need to take during the middle and high school grades to qualify for college admissions in major fields that can lead to a chosen career. Students in these grades may also discount entrance into many more selective colleges because they are unaware of available sources of financial aid. Such lack of knowledge prevents students from seeing the current relevance of working hard in challenging courses to earn admission to more selective colleges or to preferred major fields. Current programs such as Upward Bound provide knowledge on college prerequisites and the college admissions process to students at risk in their middle and high school years.

In operation since 1965, the national Upward Bound program provides academic and other kinds of assistance to economically disadvantaged, underachieving students who show potential for completing college. In 1990, Upward Bound received over $100 million to operate nearly 500 projects serving over 35,000 participants (U. S. Department of Education, 1991). Colleges and universities or secondary schools with residential facilities operate Upward Bound programs in cooperation with high schools and community action programs. Intervention strategies, such as remedial instruction, immersion in new curricula, tutoring that often extends into the school year, cultural enrichment activities, and counseling are used to foster in students the academic competencies and motivation needed to complete a college or university program. The program involves summer sessions during which participating students reside in campus housing and undergo intensive training for a period of six weeks or longer. Participating colleges and universities attempt to establish academic and social relationships with the students and help them gain admission and financial aid for postsecondary education.

A review of the evaluations of the Upward Bound program in Natriello, McDill, and Pallas (1990), including the multiphase longitudinal study conducted by the Research Triangle Institute (Burkheimer et al., 1979), concludes that Upward Bound is successful in getting students to graduate from high school and enter college but that it does little to ensure that students who enter college will persist to attain a college degree. These findings were supported by the Applied Systems Institute Study in 1984, based on data in the High School and Beyond Survey, and on a report currently being prepared based on High School and Beyond and the 1972 National Longitudinal Survey of High School students (U.S. Department of Education, 1991; Myers, in press). This lack of success in encouraging student persistence is attributed to too little time devoted to academic instruction during the program and no definite strategy for intervention once an Upward Bound student enters a postsecondary program. Upward Bound has placed more emphasis on the academic component of the program by instituting a new math and science program made up of 29 regional projects around the country (U.S. Department of Education, 1991). There also is a proposal to establish a required core academic curriculum for program participants. While programs like Upward Bound can help students see the linkages between school and college, middle and high schools themselves need to provide accurate information on college prerequisites and financial aid. Students with this early information are far more likely to see the relevance of their current school work for college-going goals and to eventually enroll in postsecondary education (U.S. General Accounting Office, 1991).

In addition to increasing the flow of important, relevant information on jobs and continuing educational opportunities, schools can create direct links with employers. Developed by Public/Private Ventures, the Summer Training and Education Program (STEP) is a particularly well-implemented and unusually well-evaluated program designed to provide underachieving 14-15 year-olds from low-income families with extra help in academics, life skills, and work experience during two consecutive summers. Students also are provided with ongoing support during the intervening school year. During the summer, students are paid a full-time minimum wage for six to eight weeks as they participate in the program. They spend approximately half the time in individual and group instruction in basic reading and math skills and 40% in part-time work provided by the federally funded Summer Youth Employment and Training Program (SYETP). The remaining 10% is devoted to instruction in responsible social and sexual attitudes and behaviors.

Evaluations of STEP include random assignment of students to treatment and control groups, with members of the control groups working full time on SYETP jobs but not participating in the STEP activities. Successive evaluations conducted by Branch, Milliner, and Bumbaugh (1986) and by Sipe, Grossman, and Milliner (1987, 1988) indicate positive effects, with the program improving over time. Students in initial cohorts simply showed less loss of academic skills over the summer than control students, while later cohorts either showed no loss or actual gains in reading and math. Modest positive effects on the likelihood of promotion and on dropout rate reduction (among Hispanic students) also were found.

The well-documented success of the STEP program drew the attention of policymakers and practitioners, resulting in the expansion of the program from five initial demonstration sites to more than 100 sites in 15 states. In their recent comprehensive evaluation of STEP, Walker and Vilella-Vilez (1992) summarize the program's short- and longer-term effects in both the pilot and replication sites. Overall results show consistently positive effects on STEP students' reading and math test scores and awareness of socially responsible behaviors as compared to control group students.

These results, however, often did not translate into higher performance during the school year and did not persist once the students left the STEP program after the second summer, as indicated by three- and four-year follow-up interviews. The program demonstrates that it is possible to improve academic and life skills of students at risk through intensive, controlled, relatively short-term interventions. Lasting gains in the school or work lives of program participants seem not to occur, however, due to the lack of a "vehicle to reinforce and continue STEP's positive impacts" once the students leave the program (Walker and Vilella-Vilez, 1992, p.iii).

Other strategies and programs also create links between school and employment and college aid. Agreements between local businesses and school systems can guarantee students job interviews, actual employment, or direct assistance in applying and paying for college, in return for maintaining good high school attendance rates and grade point averages. Examples include the Boston Compact, the Baltimore Commonwealth and Collegebound Foundation, and the Cleveland Collegebound Foundation. But these efforts have been criticized as being ineffective because the guaranteed rewards are too distant to affect student behavior and the criteria are too inflexible to appeal to those students who most need added incentives to improve school behaviors (Gottfredson, 1988).

We have little rigorous evaluation evidence of the effects of various strategies for providing better information to students or for offering college or employment rewards for good school behavior (U.S. General Accounting Office, 1990a; Betsey et al. 1985). The following suggestion appears valid: more effective programs will require a comprehensive approach that begins in the middle grades. This approach would combine more information to the student with personalized guidance services on college and career opportunities and requirements (U.S. General Accounting Office, 1990b) and an incentive program. The incentive program would offer immediate payoffs such as contributions to students' college savings accounts or actual chances for paid employment that are tied to short-term school records and incremental improvements in individual student behaviors in school (Gottfredson, 1988; Natriello, McDill, and Pallas, 1990).

Learning activities in middle and high school can be directly connected to the worlds of college or work so that the transition between different domains becomes a *gradual* experience, rather than school being merely a preparation for the college and career events that *follow* high school graduation. Current examples include Tech-Prep offerings that permit high school students to take part of their program at the local community college, cooperative education programs that coordinate learning experiences at the work place with learning activities in the classroom, school-to-work apprenticeship programs, community college co-op programs, and high school programs to integrate academic and vocational offerings with experiential learning activities (U.S. General Accounting Office, 1991; Hoyt, 1991; Hamilton, 1990). These reform efforts are still in early stages of development, but show real promise for convincing students of the relevance of their school work for achieving college and career goals by directly linking their middle and high school learning activities to college and worksite locations and experiences.

Parent, community, and school partnerships: Integrated services. A final way in which schools can be better organized to serve the needs of poor children and children of color is by strengthening school-community ties. In the last two decades, educational practitioners and researchers have begun to realize that schools need help to improve appreciably the academic performance and social behavior of the most disadvantaged segment of the at-risk school population. These are the students who manifest a variety of personal and family problems that persist over time from early in their school careers to well into adulthood and serve as major impediments to adequate school performance and pro-social behavior (Dryfoos, 1991; Natriello, McDill, and Pallas, 1990, Chaps. 2, 3, and 4). The problems of these students may include teenage pregnancy, alcohol and drug abuse, delinquent gang membership, dysfunctional families, and family violence. Such students are also likely to live in neighborhoods characterized by poor social control, delinquent gangs, high rates of personal and property crimes, and widespread distribution and consumption of drugs.

To address the diversity of these student problems and behaviors, school systems are attempting to implement multifaceted and coordinated approaches in collaboration with public and private community agencies and parents. Long-standing mandates for parental and community involvement exist in the most prominent federal compensatory education programs such as Head Start, Title I, and Chapter 1. However, "the shared responsibilities of families, schools, and communities are not well understood nor well-developed in family practice, school practice, or community practice" (Center on Families, Schools, Communities, and Children's Learning, 1990, p. 1).

Two distinct but compatible perspectives have emerged regarding how to deal with the deterioration within and among schools, communities, and families (Natriello, McDill, and Pallas, 1990, pp. 194-197). Wilson's (1987) prescription advocates reindustrializing and economically revitalizing inner cities. A second perspective, which is our concern here, argues for a strengthening of the bonds among the key educating institutions -- the family, community, and school -- to educate students at risk more successfully. As noted by Natriello, McDill, and Pallas (1990, p. 196), the most advocated strategies for strengthening these bonds include greater family involvement in the school and making the school more prominent in the lives of the family and community. In terms of family-school partnerships, collaboration, or "connections," Epstein (1992, in press) has developed a six-fold typology to codify research and link research to practice:

1. *School assistance for families* refers to schools providing aid to families in their discharging of basic responsibilities to children, such as health, guidance, supervision, and creating home conditions that support school achievement and prosocial behavior.
2. *School–home communication* refers to the basic obligation of schools to communicate with families about school programs and children's progress, including the use of letters, memoranda, report cards, phone calls, and conferences.
3. *Family help for schools* refers to the involvement in school of parental and community volunteers who assist teachers, administrators, and students in classrooms and other areas of the school.
4. *Involvement in learning activities at home* refers to either parent–initiated or child–initiated requests for help, especially ideas from teachers for parents to monitor or assist their own children at home in learning activities that can be coordinated with the child's classroom work.
5. *Involvement in decisionmaking, governance, and advocacy* refers to parents and other community residents in participating roles in parental associations, advisory committees, and school improvement or school-site councils.
6. *Collaborations and exchanges with community organizations* refers to the involvement of or connections with outside agencies that provide access to and coordinate *integrated* community and support services for children.

Epstein (1992, in press) concludes that the myriad of practices that can be subsumed under these headings have typically not been systematically evaluated; however, there are notable exceptions, such as the use of home–based reinforcement programs guided by teachers and designed to help parents praise and encourage children. This approach appears promising in motivating children to increase their achievement.

A specific way in which some schools are addressing the personal problems that impede students' learning is by integrating and coordinating the social services many students at risk need. "Joining Forces" (Levy, 1989) is a *national* effort to help education and human services professionals at both the state and local levels collaborate in aiding children and families at-risk. The initiative was undertaken in 1987 by the National Association of State Boards of Education with an initial grant from the Ford Foundation. In 1989, sponsorship was transferred jointly to the Council of Chief State School Officers and the American Public Welfare Association with financial support from several private foundations. Specific objectives are to promote dialogue among education and human service agencies; to collect, collate, and disseminate information on successful examples of collaboration; to assist states in the development and evaluation of collaborative approaches through techniques such as on-site technical assistance; and to foster supportive action at the national level.[2]

A more recent national programmatic effort is the National Center for Service Integration, established in 1991 with support from the U.S. Department of Health and Human Services. "The broad purpose of the Center is to stimulate, guide, and actively support service integration efforts across the country" (Mathtech, Inc., 1991, p.1). The Center is engaged in two broad programmatic activities: operating an information clearinghouse on services integration and providing technical assistance to field-based services integration initiatives. The initial attention of the Center has focused on integration of educational, health, and related human services directed to families and their children.

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2. For further discussion of the effectiveness of integrating services, see Dolan, L.J. (1992). *Models for integrating human services into the school*. Johns Hopkins University, Center for Research on Effective Schooling for Disadvantaged Students, Report No. 30; and Dryfoos, J.G. (1990). *Adolescents at-risk: Prevalence and prevention*. New York: Oxford University Press.

The most ambitious integrated services program at the *state* level is the School Based Youth Services Program (SBYSP), funded at $6 million annually and launched in 1988 by the New Jersey Department of Human Services in collaboration with the departments of labor, education, and health (New Jersey Department of Human Resources, 1988). This program offers a wide array of human and educational resources to youth at risk between the ages of 13 and 19 years, including employment counseling, job training and placement, summer and part-time job development, drug and alcohol abuse counseling, family crisis counseling, academic counseling, primary and preventive health services, recreation, and referral to health and social services. All state funds support local initiatives, and all applications for state funding must be submitted jointly by the school district and at least one public or private service agency. The Department of Human Services requires demonstrations of broad community involvement, and local advisory boards are required to have multi-sector representation (Levy, 1989).

To maximize accessibility of sites to clients, local centers are located at or near schools. There are 29 program sites throughout the state, with at least one site located in each of the state's 21 counties. The SBYSP does not impose a single model or programmatic approach on any community. Rather, the constellation of staff and services represents an adaptation to local needs (Levy, 1989, p.12). However, all project sites are required to provide core services such as counseling, health and substance abuse services, employment counseling and training services, information and referral services, and recreational opportunities.

Unfortunately, the SBYSP conforms to the norm recently observed by Dryfoos (1991) in her extensive critique of integrated services programs: "Few of these efforts in or out of schools have been adequately or systematically evaluated" (p. 123). The state has not undertaken a systematic evaluation of the program to monitor its long-term effects. Instead, it appears that the cognizant agency is relying on "anecdotal" and "baseline" information to support its position that "they are on the right track" (Cohen, 1989, p.12).

The New Jersey model has been adapted by Kentucky as part of its Kentucky Integrated Delivery System (KIDS) program, a collaborative effort between the State Department of Education and the Cabinet for Human Resources to meet the personal, social, and educational needs of students. Implementation is underway at 125 local centers around the state. Staff from human services agencies have been placed in schools to provide them access to children and to facilitate communication between school and agency staff persons (Levy, 1989, p. 12). At the middle and high school levels, the focus is on youth service centers modeled after the New Jersey initiative, while at the elementary school level family resource centers constitute the major effort.

At the *local* level, San Diego's "New Beginnings" represents a prototypical effort to design and implement an interagency collaboration to improve the lives of poor families and their children through creation of a new system concentrating on integrated services and prevention efforts. The program began in 1988 as an outgrowth of discussions among top agency executives in San Diego county, the Superintendent of San Diego City Schools, and officials from other public agencies. The discussions quickly focused on the problems of fragmentation of services in the inner-city population characterized by high density, ethnic diversity, transience, high crime rates, and child abuse (Deputy Superintendent of San Diego City Schools, 1990). A feasibility study, undertaken in 1989 at Hamilton Elementary School, examined the potential for an integrated services initiative to improve the welfare of its students and their families. The study concluded that families have difficulty in "traversing" the complex of human services without additional support and information; services are fragmented and do not emanate from a common theoretical or philosophical base; too few resources are dedicated to preventive efforts, with most being focused on crisis intervention; and although the school is the logical base for providing services to both families and children, collaborative efforts should not necessarily be governed by the school.

Implementation planning for the New Beginnings program began in October 1990, with support from two private foundations. The program is most appropriately described as a strategy for coordinating educational, social, and health services with foci such as the following: prevention and early intervention; a holistic focus on the family as an interactive unit, not on any single member; reallocation of existing services from participating agencies; and an emphasis on adaption in several settings rather than a project focus (Joining Forces, n.d., p.2).

A demonstration center was opened at Hamilton Elementary School in the fall of 1991. In Phase One, the center is serving families in grades K-5, with expansion to preschool children in a planned second phase. Services provided include the following: expanded school registration and preliminary assessment for all families, parent education and adult education classes, expanded health services, a team of family services professionals to provide continuous planning and counseling and to direct services to families in need, and linkages to an extended team to provide support services from the participating agencies.

"New Beginnings" appears to be an exemplary case of an integrated services approach involving a careful design and implementation of inter-agency collaboration. Clearly, its most problematic aspect is the lack of a careful evaluation of service outcomes. Funders of the program, including private foundations and the U.S. Department of Health and Human Services, pressed program officials for a "tight outcome evaluation" (Cohen, 1991, p. 19). A tentative framework for evaluation describes a variety of outcome measures to be assessed, such as parents' involvement, student achievement, infant morbidity and mortality, and welfare dependency. However, as Cohen (1991) notes, "... the specifics are still sketchy, and some proposed indicators -- especially those relating to health -- need refinement" (p. 19).

The integrated services model clearly represents an advancement over earlier compensatory education models that often ignored the complex of recent demographic, economic, and social changes that interfered with schools' abilities to educate a growing population of disadvantaged students. The success of this approach most likely depends on the ability and willingness of school and human services agencies to develop and implement a comprehensive plan to link the school restructuring movement with health and social services programmatic initiatives (Dryfoos, 1991). Recent experience indicates that achieving such a coordinated multifaceted effort is a daunting challenge.

For example, New York City's Dropout Prevention Initiative, which operated in the New York City School System from 1985-86 through 1987-88, fell far short of meeting its primary goal of reducing dropout rates among students at risk. The evaluation of the program (Grannis, Riehl, Pallas, Randolph, and Jewell, 1988) clearly revealed that a substantial proportion of targeted students received few or none of the services the program was designed to deliver.

> Data from the Teachers College evaluation show that services fell most conspicuously short of program expectations in areas that required crossing organizational boundaries: health, which required collaboration between the board of education and the health department; and school linkage, which required collaboration between the middle schools and the high schools, at both the central office and the district levels (Grannis, 1991, p. 149).

CHAPTER 9

STRATEGIC ISSUES

The discussion in the previous chapter provides only a sampling of the many and varied strategies and programs aimed at poor children and children of color. These programs can have a positive impact on the lives of many children and, when they are well evaluated, can also generate important information about what does and doesn't work. It is possible for schools and school systems to be more effective by adopting these programs and adapting them to meet the needs of their underachieving students. However, as we noted earlier, positive effects often "fade out" when students leave a program, and many programs address only one aspect of a student's difficulties with little attention given to the complex web of social forces that influence a student's opportunities and motivation to learn (see Section One of this manuscript). If schools are interested in producing deep and lasting positive effects for students at risk, they must develop a comprehensive reform strategy that confronts these issues head-on. In this concluding section, we set forth four dimensions of such a comprehensive reform strategy[3]: academic success, relevance, positive relationships within school, and supportive conditions beyond school.

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[3] These dimensions represent the convergence of several sources including (1) student accounts of reasons why they drop out (Ekstrom, et al., 1986; Pallas, 1986; Peng and Takai, 1983; Rumberger, 1983; Wagenaar, 1987); (2) compendiums of dropout prevention programs (Branch et al., 1986; Natriello, et al., 1990; USGAO, 1987; Slavin, Karweit, and Madden, 1989; Hahn and Danzberger, 1987; NCCE, 1988; OERI, 1987; Orr, 1990; Rumberger, 1987); (3) academic theories of students motivation (Ames and Ames, 1984, 1985, 1989; Brophy, 1987; Blumenfeld, et al., 1991; Lepper, 1988; Willis, 1991); and (4) analyses of the social context of at-risk students (Coleman, 1988; Comer, 1988, 1992; Darling-Hammond, 1985; Farley and Allen, 1987; Jaynes and Williams, 1989; Natriello, McDill, and Pallas, 1990; National Alliance of Black School Educators, 1984; Ogbu, 1985; Smith and O'Day, 1991; Strickland and Ascher, 1992; Wilson, 1987; Winfield, 1991).)

Four Dimensions of a Comprehensive Reform Strategy

Academic success. One of the strongest correlates of students' psychological and physical disengagement from school is lack of academic success (Ekstrom, Goertz, Pollack & Rock, 1986; McDill, Natriello, & Pallas, 1985, 1986; Wagenaar, 1987). Students at risk need to have their efforts at school work recognized and rewarded. The rewards most frequently offered to students to motivate them to do good school work are high marks, praise from teachers and family members and respect from peers for meeting challenging classroom assignments. However, students at risk may have poor prior preparation, weak support at home for academic tasks, and negative peer pressures that deprive them of sufficient opportunities to achieve immediate rewards for schoolwork. Students also may be placed at risk by attending schools that lack the resources and standards needed to prepare them for college and/or workplace success.

Relevance. A second major cause of poor school performance, early school leaving, and rebellious behavior is that the school program is not relevant to students' current and longer-term social and economic interests. Learning activities should be intrinsically rewarding to students -- interesting, challenging, and providing opportunities for initiative and creative effort. However, substantial evidence indicates that a sizable segment of students view much school work to be dull, passive, and unimportant. Several critics of the schooling of poor children and children of color assert that these students are deprived of academically stimulating and interesting subject-matter because they are often placed in lower tracks or remedial courses that concentrate on repetitive drill and practice (Oakes, 1989, 1992; Gamoran and Berends, 1987).

Positive relationships within school. Students need to feel attached to school as a supportive community that recognizes their individuality and that cares about and promotes their success. The need for positive, supportive relationships between students and teachers and a climate of common purpose and caring are emphasized in several studies of effective schools for poor children and children of color (Bidwell, 1987;

Coleman, 1987; Bryk and Driscoll, 1988; Lightfoot, 1978; Lipsitz, 1984; Wehlage et al; 1989; Young, 1990). Climate is a key concept in recent models for secondary school improvement (Coalition for Essential Schools, 1985).

Supportive conditions beyond school. Students do not leave their personal and family problems at the school door. Such problems as gang membership, drug or family abuse, and teenage pregnancy can be substantial barriers to academic success and pro-social development. While some may argue that schools have a primarily academic function and that they can do little about a student's personal problems, the reality is that many students will not reach even basic academic performance standards unless these other problems are ameliorated.

It is easy to see how many of the strategies and programs we discussed in the previous section can be understood in terms of one or several of these dimensions. Multicultural education, for example, can make school more relevant, mentoring and integrated services can help provide more supportive conditions for learning in the beyond-school environment, peer tutoring can create a more cooperative school climate and improve academic success, and so on. Planning a comprehensive reform strategy, however, means stepping back from the level of specific programs and strategies and giving serious consideration to the overall goals and framework of such efforts. Informed by research and practice, we present these four dimensions of educational programs as a conceptual framework that articulates the general areas into which resources must be directed. Below we discuss some strategy issues in carrying out work along the four dimensions, some strengths and weaknesses of the categories as presently described, and some additional implications of recent national education policy directions.

In adopting a comprehensive strategy to reduce the risks of school failure, a school system needs to consider the following issues:

- How should the total resources for compensatory education be allocated across elementary, middle, and high schools for greatest effectiveness in reducing the rates of school dropouts and other serious problems of school failure?

- What priority should be given to each of the four dimensions of reform at different grade levels for maximum effectiveness?

- Should failure-prevention efforts be focused primarily on targeted subgroups of students at risk or aimed more generally at reform of the learning environments in typical schools and classrooms? This involves questions of a case-management strategy versus a broad-based restructuring process.

Timing of Compensatory Resources

Most of the extra educational resources for students at risk are targeted toward young children in preschool programs and the elementary grades. We believe that there should be an equal emphasis on targeting students in the later grades.

The correlational evidence often cited to justify spending most resources on an early intervention-for-prevention strategy is open to alternative interpretations. Numerous studies showing that poor readers in the early elementary grades are likely to eventually drop out (Howard and Andrew, 1978; Lloyd, 1978; Kelly, Veldman, and McGuire, 1964) have been used to justify the heavy allocation of available compensatory education funds in the early elementary grades. For example, Chapter 1, which receives over six billion federal dollars each year, is primarily an elementary-grades compensatory education program, since 90% of the students receiving assistance are in grades K through 6 (Slavin, Karweit, and Madden, 1989). But these correlational data probably do not mean that if we successfully teach each child to read in the first three years of school that the problems of later failure will be solved. The correlation between school failure in the early and later grades can also be interpreted as due to a continuing internal or external variable, call it "poor school climate" or "poverty," that contributes to low school performance at each stage of education. If the same problems that cause reading difficulties in the early grades persist as barriers to a student's learning in later grades, an investment strategy that attacks only the initial problems will not be adequate to the task. There is no early "inoculation" that will prevent later problems if most students' learning problems are caused by persistent undernourishment from the school or out-of-school environment. This situation will require continuing "booster shots" of extra assistance to students and schools to establish and maintain a normal healthy learning development across the years.

Of course, successful school experience in the early grades can make major contributions to the next stage of learning. Initial success builds a student's self-confidence and motivation for the next challenge, and basic reading and numeric skills form the essential foundation for most later learning activities. We are not arguing that resources for these efforts be depleted in favor of programs directed toward older students. But there is no scientific evidence that it is too late after the early elementary grades to remediate reading or math deficiencies or to motivate students through stimulating learning experiences. It is certainly worthwhile to provide sufficient resources to build a foundation of basic skills and self-esteem in the early grades, but there is no scientific justification for giving up on students who do not achieve early academic success or for assuming that early success will be sustained for all students without continuing extra help to them and their schools in the later grades.

In fact, research studies of compensatory education have repeatedly found a "fade-out" effect -- the cognitive learning gains achieved in the early grades quickly dissipate and eventually disappear entirely when there is no special program to follow through in the later grades on the initial investments (Natriello, McDill and Pallas, 1990). It is hard to justify an early-intervention-only strategy if a few years later the students who received the early assistance are indistinguishable in academic skills from comparable students who did not participate in the initial intervention program.

Research does not now exist that evaluates the effects of different resource allocation strategies across the grades. Future studies might explore the costs and benefits of different strategies to determine the extent to which increasing investments in preschool interventions such as Head Start makes more sense than adding funding for specific programs in the early elementary grades or extending extra academic and social services for disadvantaged students through the middle and high school grades. Obviously, the impact of increased investments at any stage of human development depends upon the effectiveness of the particular programs to be supported, and different kinds of assistance may make sense at different ages because the primary sources of motivation change as students grow up. Acknowledging these points, we urge that compensatory education be continued beyond the early years so that extra help is sustained for students who need it at each stage of development.

Dimension Priorities

We believe all four dimensions of reform should be addressed in any school district program to reduce the school dropout rate and the earlier incidents of early school failure that lead to dropping out. Because students of different ages will have different motivational priorities, however, some dimensions are more important than others at each stage of development, and the specific ways each dimension can be most effectively addressed will differ by grade level.

The first dimension, opportunities for academic success, is basic to student motivation at every age because all learners need to believe that when they try hard at appropriate learning activities they will experience positive results. Providing effective extra help when it is needed is especially important in the early grades to ensure that a firm foundation of basic skills and self-confidence as a learner are established. Exemplary programs for the early grades described earlier, such as Reading Recovery and Success for All, use well-trained adult tutors to deliver individualized intensive assistance to students. In contrast, the middle and high school grades are more likely to schedule extra academic assistance during the summer months for helping students who are behind or failing to catch up, or to use peer tutors and technologies to provide additional instruction during the regular school year. These examples reflect strategies that seek to control the costs of providing extra help -- using student peers as an inexpensive source of individualized assistance for older students or investing in technology to lower the cost of individualized help from paid professionals.

The evaluation evidence supporting the effectiveness of the usual methods for providing extra academic help in middle and high school grades is not as strong as evidence on the best early and elementary approaches. We believe much more needs to be done in the middle and high school grades not only to provide adequate compensatory education resources, but also to develop effective delivery systems for extra help that fit into the regular school day. We need to replace the typical current organizational devices for dealing with student academic diversity in middle and high school grades -- tracking, grade retention, and special education placement -- with a common curriculum of uniform high standards that each student can master because effective extra help is provided when needed. Innovative ways are needed to schedule and combine human resources (professional, paraprofessionals, adult volunteers, and peer tutors) with technological resources (various media, computers and other interactive devices). These new approaches must be scientifically evaluated to provide clear knowledge of effectiveness, so that we are not left to rely on the testimony of inventors or marketers, as is so often now the case.

In addition to providing consistent and ongoing extra academic help, we must revise the antiquated evaluation and grading system that recognizes only a narrow mode of learning and that requires students to achieve more than others in their class to earn praise and top grades. Students who work hard and make significant progress on appropriate learning tasks should be able to easily demonstrate what they have learned and be rewarded for their efforts and improvement. Current systems provide some useful information but need to be supplemented with new assessment procedures and grading methods that have more motivational utility.

The second dimension, relevance of learning activities, also may require somewhat different approaches at different ages. Providing classroom learning activities that are inherently interesting and challenging is important at every grade level, but the nation's schools are still at an early stage in replacing the current passive and boring content that is driven by multiple-choice tests. Likewise, providing examples and models of students' own sex-race-ethnic backgrounds and community experiences is also a worthwhile goal throughout the curriculum at every grade level. Students at every age will be better motivated by learning materials with which they can personally identify and that use the experiences and resources of their own communities, but work is still needed to develop instructional materials and experiential learning activities to meet these goals.

Relevance of schoolwork for later college and career goals becomes a major issue for the first time in the middle and high school grades. Students need to understand college opportunities and requirements as early as middle school so they will aspire to college and enroll in the demanding courses during middle and high school that are prerequisites for many college major fields. Students in these grades also need to see how their current studies will be useful in adult life, especially in the jobs they might seek after graduation. We described a variety of approaches for schools to make the connection between middle or high school learning activities and adult roles and careers.

The third dimension, a climate of caring and support, is most problematic at the middle and high school grades, in which school size, tracking, and departmentalized staffing emerge as serious barriers to positive teacher-student relations. The middle schools are often more attuned to these problems than high schools for two reasons: the middle school movement focuses on the needs of young adolescent learners for personalized support from school adults, and middle grade teachers often are drawn from the elementary schools where they have developed a strong student orientation. But even in middle schools, recommendations to create positive climates -- for example, through well-functioning interdisciplinary teams and homeroom, core teacher-advisors -- are not often implemented. At the high school level, there is substantial debate among professional educators over the particular shape reform should take. Some ideas of individual reformers, such as Sizer's Coalition for Essential Schools' principles for developing new teacher and student roles and relationships, have been highly publicized and piloted across the country, but have yet to be rigorously evaluated.

The final dimension, help with students' personal problems, should be considered differently across the grades because students of different ages encounter serious problems of very different sorts. In the early grades, family support teams can help remove barriers to learning at home or in the neighborhood. In later grades, professional assistance with drug abuse, teenage parenthood, and mental health problems can help neutralize serious distractions to a young person's concentration on his or her student role and responsibilities.One major mechanism now used for delivering extra service to students, however, should be carefully reexamined and modified. We believe major reforms are needed in special education referrals, which presently are used in the elementary and middle grades as a major approach for dealing with students who have serious learning or discipline problems. Although well-run, separate special education classes with expert staff and carefully designed curricula are needed for children with severe physical or mental handicaps, such as extreme sight or hearing impairments or mental retardation, the largest and fastest growing category of special education placements are learning disabled (LD) students, who usually are the lowest of the low achievers with no distinctive characteristics of birth defects or biological damage (Deshler et al, 1982). The only other category that has increased in recent years is that for the "emotionally disturbed." These are students who create discipline problems in the classroom, which may be due more to poor prior socialization experiences than to biological factors. No doubt most students in these growing categories need significant extra help with their academic preparation or with their behavioral coping skills, but special education placement is very costly and may have dramatic, negative consequences for the remainder of an individual's education. Special education is expensive because of the high costs of testing that precedes placement and the high costs of smaller classes and specially trained teachers. Special education is the most severe form of permanent tracking into segregated programs that have (1) much less demanding curricula and (2) lower expectations, due to the labeling of students as handicapped, disabled, or retarded. Because of the costs and consequences, special education placement should be a last resort to provide extra services to most students who have learning or discipline problems. We need to modify compensatory education programs and procedures to deliver effective assistance to these children without segregating and labeling them for the rest of their school careers.

Targeting or Restructuring

A final general issue in designing more effective programs is whether to emphasize (a) a case-management approach that targets specialized services to students who have the most severe problems or (b) a comprehensive school-wide reform plan that revamps the general learning environment experienced by the typical student. Our four-dimensional framework recognizes that both approaches are needed but that school-wide reform should be paramount, especially in any setting that enrolls large numbers of students at risk. The first three of our four dimensions -- opportunities for success, relevance of school, and a climate of caring and support -- apply to school-wide reform, while the final dimension -- assistance with personal problems -- targets individual needs of the most seriously troubled students.

While restructuring of the school's social organization and key roles is needed to revitalize student motivation in most of the nation's schools, it is most essential in locations where dropout rates are now very high. For school systems in which high schools have more than half of their students failing to graduate, small changes will not be sufficient, and the problems are too numerous to address by a case-management approach alone. In these instances, schools are not working for most students and need to be fundamentally reformed to create entirely different environments. The programs and strategies outlined above suggest specific steps that can be taken in three basic dimensions to begin moving toward desirable school-wide restructuring.

Although each of our first three dimensions focuses on comprehensive school-wide changes, many of the recommended changes address individual student needs for extra academic help, personalized contacts with a single school adult, and links with specific career or educational goals. For example, school-wide reforms -- such as establishing small, consistent teams of teachers and students, adding evaluation systems that are responsive to individual progress, scheduling time for special classes, or keeping records of students' strengths, are ways of personalizing the climate and individualizing the learning experiences within a large system of mass education. Many of the recommended school restructuring steps will actually provide individual experiences that are more motivating and supportive for students.

The intensive case-management approach will also be needed for some fraction of students who have major personal problems that require individual treatment. Students who have the most severe problems can be helped through personalized services within a regular school setting, by referrals to outside special services while students remain enrolled in regular school, or by assignment to small alternative schools that are designed to support and motivate individual student adjustment and learning. Assistance with individual problems can sometimes alleviate serious distractions from adequate school work and free students to successfully complete their education. For example, schools can assist with child-care responsibilities of teenage mothers while they are in class, or programs can help students conquer substance abuse sufficiently to attend to their classroom learning activities. But for students who have serious academic, attendance, and discipline problems, reforms of the school environment must be combined with programs to equip them with better personal coping behaviors to produce success in school performance and enable higher completion rates.

SECTION III

BARRIERS AND PATHWAYS TO MEANINGFUL REFORMS: THE NEED FOR HIGH RELIABILITY ORGANIZATIONAL STRUCTURES

Sam Stringfield
Center for Research on Effective Schooling for Disadvantaged Students
Johns Hopkins University

CHAPTER 10

ORGANIZATIONAL BARRIERS TO REFORM

Clearly, we know more than ever before about how to address the schooling needs of children at risk. When well implemented, Slavin et al.'s (1992) Success for All program, James Comer's (1988) School Development Program, Henry Levin's Accelerated Schools, and such highly focused projects as Reading Recovery (Pinnell, 1988) show promise for improving the academic and more general well-being of students at risk. In addition to this programmatic knowledge, we know much more about what students at risk are capable of learning (much more than we're teaching them). We know more about teaching them reading and math (Brophy, 1986) and "higher-order" or "advanced" skills (Means, Chelmer, & Knapp, 1991). We know more about the school structures needed to sustain higher student achievement (Good & Brophy, 1986; Stringfield & Teddlie, 1991).

If we understand this much, why do we have more and more young people who are at risk of school failure and dropping out? It's a fair question, and it can not be answered simply. What can be done is to describe a route toward addressing the question, and to map our progress toward a satisfactory answer.

A few years ago I had the great fortune of receiving a three-year Kellogg Fellowship. Among other activities, the foundation brought its fellows together twice a year to interact with experts from around the world as they presented the problems of their fields and the steps they were taking to address them. Presenters included management gurus, politicians, philosophers, social advocates, leaders in medicine, public health, agriculture, and education. While the content areas and contexts of the presentations varied widely, a common theme was that problems are solved when talented people understand problems, identify plausible solutions, garner adequate resources, identify a plausible path between current realities and goals, create necessary alliances, act, and evaluate/react. In short, they all advocated contextually sensitive organizational development.

If the problems of students at risk are to be successfully addressed, schools must be improved. For schools to improve, educators, parents, and other concerned citizens must engage in contextually sensitive organizational development. This seems so obvious that it raises the additional question, "Why has that not already happened, or not happened often enough?" A discussion of the numerous barriers is presented in this chapter, and possible solutions to each roadblock are discussed. In the next chapter, a conception of schools as "High Reliability Organizations (HROs)" is presented. HRO is discussed as a more viable model for institutional excellence. Implications for school districts serving large numbers of students at risk are discussed within the HRO framework.

What are the Problems?

Imagine visiting an organization that has the following general characteristics: Widespread low employee morale is evident, and ongoing labor-management conflicts are contributing to carelessness. Staff reductions are perceived as having directly contributed to a rise in accidents and an eroded emergency human backup capability. Workers have inadequate training and staff development to meet the changing demands of their jobs. Management and staff have little information regarding the potential short- and long-term hazards of not doing their jobs well. Management has failed to investigate the causes of previous poor performance, and staff are not carrying out several of the crucial tasks of the facility. Backup and support systems are either non-operational or of such poor quality as to be irrelevant. Moreover the central administration of the larger system views the facility as having low importance. Equipment and materials sent to the building are often inadequate or substandard.

I have visited schools that fit this description in rural and ghetto America. Several such schools were negative outliers in the Louisiana School Effectiveness Study

(LSES) (Stringfield & Teddlie, 1991). However, the above description is of Union Carbide's now infamous chemical plant at Bhopal, India (Shrivastava, 1986).

The above example should make two points clear. First, as many of our problems are "human" as are technological; and second, solutions to many are as near as our collective will and wisdom. Just as Bhopal was avoidable, many of the problems involved in educating students at risk are avoidable and/or addressable.

The societal-level problems have been identified in such recent works as Kozol's (1991) *Savage Inequalities*, Kotlowitz's (1991) *There Are No Children Here,* and Natriello, McDill, and Pallas' (1990) *Schooling Disadvantaged Children: Racing Against Catastrophe*. Many students must face inadequate food, shelter, and safety, a shortage of highly skilled teachers willing to work in high-poverty inner-city and rural areas, inadequate school resources and occasional misuse of scarce resources, and apparently less-than-universal motivation to improve the education of students at risk. I will say little more about these, focusing instead on the organizational problems within our schools. This is not to imply that these problems are not important or are unaddressable, only that I believe they may best be attacked by giving pre-eminent focus to improved school experiences for all. In fact, successful schools will, of necessity, address many of these problems in formulating their goals and strategies, and others of these problems are best addressed by schools that are effectively functioning for all students.

Within schooling, there are at least six reasons why organizational reforms that would benefit students at risk have not taken place. First, having been criticized from without so often, educators are often loathe to openly discuss problems from within. Not clearly understanding and stating our problems makes it unlikely that we will choose the best available solutions. Second, once problems have been identified, clear solutions are not always readily available. Third, for "programs that work" to work in a specific context, they need to be compatible with the current strengths of the schools in which they will be placed. Fourth, in the rare instances where proven programs exist in sufficiently detailed forms, practitioners, administrators and boards often underestimate the human and fiscal costs of effective implementation. Staff development and training time are the most commonly miscalculated components of implementation plans. Finally, in our time there seems to be a profound individual and societal ambivalence about action in the public good. Galbraith's (1991) "contented society" describes a voting public with a highly selective cynicism regarding government's competence to act. Voters are particularly skeptical of cost-bearing programs designed to help poor people. Programs that address the five already mentioned problems or barriers will not be free. Achieving taxpayer support of at-risk program improvement becomes a final challenge.

Steps for Overcoming Barriers

To the greatest extent possible, specify the problems. I believe that one of the greatest barriers to improving the academic lot of children at risk is a reticence on the parts of educators to describe the problems educators face at various levels. Regardless of justification, this lack of specificity leads to an endless searching for something or someone "out there" to blame. Parents blame schools; teachers blame parents and administrators; administrators blame teachers, unions, colleges, and voters; affluent tax payers blame all of the above, and move to suburbs that have reputations for "good schools." Generic blaming of others will only continue the current gridlock and perpetuate current problems.

Teachers and schools provide two examples of the fallacy of generic statements of "the problem."

Teachers: Some of the world's most remarkable people are teachers. Some of these people provide extraordinarily high quality instruction under almost unbelievably trying circumstances. And yet, some who are paid to be teachers sit behind their desks, hand out ditto sheets, make assignments, and criticize young people for not being "attentive." Brophy (1988) notes that the teacher-effects literature best differentiates the top 75% of teachers from the remaining 25%. Education is a long-term proposition.

From kindergarten through middle school, most students have at least a dozen teachers. We need to not generalize about the "goodness" of teachers. Some are wonderful, and others, as in the example provided by Fine (in press), criticize "Those **damn enthusiastic teachers**" (p. 16, emphasis in original). Some teachers are virtual saints; others need a great deal of support and training, or gentle but firm encouragement to find careers for which they are better-suited and less harmful.

Schools and principals: Schools can be a large part of "the solution." Levine and Lezotte (1990) describe many characteristics that are often shared among "highly effective" schools and principals. Lightfoot (1983) provides rich descriptions of several remarkable schools and principals. Many of us have visited schools that made us wonder, "What's the problem? Education's in great shape."

However, the very presence of unusually "effective" schools implies the existence of unusually "ineffective" schools. Stringfield and Teddlie (1988) describe a path for creating ineffective schools. That downward spiral, repeated hundreds of times per year, includes appointing an administrator with little prior successful experience and even less training in working with students at risk. That principal should only visit classrooms in order to comply with state or local evaluation requirements. He or she should take no interest in curricula or instruction, or in hiring (which can be managed from the district) or firing (which can be difficult). If such a person is placed in charge of a school serving an affluent community, beyond a point the community will push for the replacement of the principal. In a school serving families who already feel powerless and alienated from public institutions, the principal may stay for decades. Given that such a person does not conduct meaningful personnel evaluations, teachers who sit and pass out assignments will "like" teaching at those schools and stay. More energized staff will find the situation increasingly frustrating, and tend to transfer out. Over time, these schools, typically serving poor communities, come to be led by at best indifferent administrators, and they will be staffed with more than their share of at best marginal teachers. The cumulative effect is not merely school ineffectiveness, but a virtual immunization against school improvement processes.

Some schools are wonderful. Others may require substantial changes before any new program or restructuring process can succeed. Most generalizations about "schools" fail to consider complex local realities.

If schools are going to improve, they and their supporting districts need to begin with an honest, if not necessarily published, assessment of the strengths and weaknesses that exist in *individual* classrooms and *individual* schools, not generic schools or even generic schools serving Latino (or African-American or American-Indian) students.

Seek solutions that have been proven to work in similar situations. There is one national problem about which generalizations are possible. Funding for research and development of "programs" has been inadequate. Many programs that have been developed have not been independently validated. Currently a cacophony is created from developers' claims that their programs "have been shown by research to work." (For an extensive list of programs--most of which lack adequate, independently conducted, moderate to large scale evaluations, see the National Diffusion Network (NDN). Many of the programs supported by NDN may indeed have the potential to help individual schools, and some may not. However, the process by which new programs enter NDN does not require independent evaluations, and has no protections against an author running multiple trials and reporting only those that are successful. A much stronger NDN could be produced by provisionally admitting programs under the current Program Effectiveness Panel, and then sponsoring moderate-scale independent evaluations of program implementations and effects. Slavin (1990) provides a similar and somewhat more extended set of suggestions.) What are needed are independently funded evaluations of promising programs, and funded efforts to develop promising new programs. No less fiscal authority than the accounting firm of Arthur Anderson and Company has concluded that these studies should be undertaken as soon as possible and could most efficiently be funded at the federal level (Measelle & Egol, 1990).

In the absence of such independent evaluations, a few programs could be tentatively recommended. Who should create the list becomes no small problem. Both the Rumberger and Larson (in press) and Fine (in press) programs outlined in a recent meeting[1] should be complimented for their data-gathering and analytic efforts. Other programs that are gathering data on their efforts include Reading Recovery, the Comer School Development Program, and Success for All. A few others could arguably qualify as effective (see *Effective Programs for Students at Risk*, Slavin, Karweit, & Madden, 1989). But for a nation of a quarter of a billion people, our list of independently verified effective programs is far too short, and must be expanded.

Individual schools need, and their students deserve, options which have been independently proven to be potentially worthy of implementation. The schools need independent validation that the programs can work, not just in an ideal setting, but in a setting like the one faced by the school seeking to improve. Schools need data on the general and the *context specific* evidence of program effectiveness. As a nation and a government, we demand no less for the introduction of pharmaceuticals, regardless of how small a population the new drugs might serve. We should demand such independent trials in various contexts for the introduction of programs into the National Diffusion Network.

Seek solutions that are compatible with the current strengths of the schools. It does little good to undertake a potentially valuable program if, for example, its basic tenants are at odds with those of the school or district. The Comer program has many attractive features, but if the local principal is unwilling to share decision making with the faculty, the program will not work. Similarly, a faculty committed to "whole language" instruction may not become enthusiastic about Success for All. A district committed to bringing Chapter 1 services into regular classrooms should not consider Reading Recovery. It is not enough to find a good program, a school-to-program match is also critical.

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[1] Conference on Education Reforms for At-Risk Children held on April 24-25, 1992, San Francisco, CA.

Understand the demands and limitations of the chosen program. Even a program independently validated and compatible with local predilections has limitations that must be addressed. Programs that may be worthwhile -- for example, the Coalition of Essential Schools (CES) -- deliberately do not specify curricula at any level of detail. Local faculty must develop units that are compatible with the CES philosophy. This requires time, effort and development skills not currently found on all faculties. Success for All requires a full-time implementer. Reading Recovery requires extensive staff development for specified teachers and that training is often not locally available. Failure to build skills and to provide the time necessary to meet these sorts of demands will result in failed implementations. When dealing with students at risk, "success for most" is not a satisfactory compromise.

Understand the requirements for full implementation. The areas probably most often miscalculated in this regard are staff development and planning times. CES assumes shared planning times, yet many schools have attempted to embrace CES principles without scheduling and budgeting the time required. Success for All requires the purchase of an extensive set of materials. The necessary levels of ongoing staff development to successfully implement such programs as the Paideia Proposal are almost invariably underestimated.

Showers, Joyce, and Bennett (1987) note that in order for staff development to actually change teaching, it must include presentation of theory, modeling, time to practice, and immediate, supportive feedback. These are characteristics that make a great deal of sense, yet they are rare in schools. Real change requires all of these elements, and the time and money required to implement such changes must be built into change efforts from the onset.

In this area, it is important to educate both the education bureaucracy and elected officials as to the need for support of full implementation. When fiscal crises come, as they inevitably do, the first thing most boards and superintendents cut is staff development. For programs to become implemented and institutionalized, staff must receive long-term training support.

It is not clear that once the above hurdles have been crossed, the public has the political will to underwrite the costs associated with improvement. John Kenneth Galbraith (1991) recently dubbed ours the "contented society." By that he meant that the middle and upper classes have found ways to make government serve their needs (e.g., loans for college students, deductions for mortgage payments, Social Security, Medicare/Medicaid). These middle- and upper-class citizens, who are the chief taxpayers and more importantly voters, are often indifferent to the needs of the poor, who often don't vote. This is a troubling development because there can be little doubt that reforms of schools serving high concentrations of children at risk will require tax support.

One bright side of this concern is that Congress has increased funding of Chapter 1 by more than 90% over the last six years. If that trend continues, and if the U.S. Department of Education loosens it regulations regarding the expenditure of Chapter 1 funds, perhaps Chapter 1 can be used to overcome other areas of voter non-support for children at risk.

CHAPTER 11

TOWARDS SCHOOLS AS HIGH RELIABILITY ORGANIZATIONS (HROs)

I believe that a major part of the problem of educating students at risk is concerned not merely with how we think about students at risk or teachers or schools or programs, but our assumptions about school organization in America. If we want to argue that all students can learn, and that schools can teach them, and that the barriers to reform noted above are addressable, we need to create structures in which that happens. Our culture has produced examples of remarkable children, teachers, schools, and programs that have succeeded in the face of extraordinary difficulties; but to date we have not produced examples of school systems in which *all* children learn. If we are to address the needs of all children at risk, whole systems must work with levels of reliability that surpass the U.S. experience to date.

Current theorizing in education, like that in industry, is largely devoted to explaining trial-and-error, failure-tolerant, low-reliability organizations. This has been appropriate for the industries and schools of the past. However, the current generation of demands placed on education, such as the high goals stated in the "America 2000" (U.S. Department of Education, 1991) proposal, are, at heart, that all students must succeed in school. This is a demand that is novel in the history of U.S. education.

In some areas of modern culture, institutions and technologies have emerged that have great productive as well as destructive powers. Quoting LaPorte and Consolini (1991): "Increasingly, any failure of these technologies is perceived by both their operators and the public to have such potentially grave consequences as to warrant the absolute avoidance of failure" (p.19). The issue is not whether the technology can usually function correctly; that is a given. Rather, the requirement is that the technology never totally malfunction. The issue is not validity, which is assumed, but extraordinarily high reliability. In order to educate those U.S. students who are now deemed "at risk," in order for those students to achieve the educational accomplishments that are already being experienced by many students, we will need a similar increase in the *reliability* of schooling for U.S. children. We will need to create school systems that exhibit an absolute avoidance of student failure.

In several areas deemed critical to the public interest, such as the operation of nuclear power plants and aircraft control towers, new types of organizational structures have evolved to meet the requirements of virtual 100% reliability. These organizations are required to engage not in trial-and-error improvement, as is common both to much of industry and management. Rather, the organizations are expected to operate "*trials without errors*" (LaPorte and Consolini, 1991, p.20). Researchers investigating the characteristics of these systems have referred to them as "High Reliability Organizations (HROs)" (Roberts, 1990).

If one accepts the goals of America 2000, then it is no longer acceptable for significant numbers of students to not learn "the basics," or for only *many* students to learn them well. It is no longer acceptable for large numbers of students to drop out of school or to remain and be provided with a substandard curriculum. The costs to individuals and to society, once low, have become too high. Schools are no longer afforded the luxury of blaming the students and their families for students' failures. Schools are now seen as accountable for the successes and failures of *virtually all* of their students. In order to respond to these new realities, schools and school districts will have to abandon industrial efficiency models and take on the operating characteristics of HROs. Failure to do so will cripple any efforts at educational reforms designed to aid students at risk.

The following pages present an overview of the primary characteristics of HROs (adapted from Pfeiffer, 1989; Roberts, 1990; and LaPorte & Consolini, 1991). Each characteristic is followed by this author's impressions of the status of U.S. education on the dimension at present.

HRO Characteristics

HROs require clarity regarding goals. Staff in HROs have a strong sense of their primary mission. Unlike most other first-world nations, the U.S. has historically chosen to decentralize goal setting. However, the "America 2000" goals are a clear reversal of this historical tendency. Such goals as all students entering first grade ready to learn, reducing the high school drop-out rate by over 50% and raising the mathematics and science achievements of all U.S. students to very high levels, have all been achieved in some U.S. schools. America 2000 requires that these core goals be achieved in virtually all schools, including those serving highly disadvantaged students.

Establishing and maintaining clear goals has been one of the most frequently cited characteristics of the school-effects research base (Edmonds, 1979; Good & Brophy, 1986; Levine & Lezotte, 1990). Stringfield and Teddlie (1988,1991) find that a cacophony of "most important" goals often resulted in a lack of clear, unifying goals for the faculties and students in low-achieving schools. Creating a strong set of agreed upon goals across a school faculty takes time, a lot of listening, and occasional firmness on the part of school leadership.

HROs extend formal, logical decision analysis, based on standard operating procedures (SOPs), as far as extant knowledge allows. At the time of the publication of the first *Handbook of Research on Teaching* (Gage, 1963), there was not a sufficient body of educational research to guide the development of standard operating procedures for schooling in any rational way. In the absence of such knowledge, and in the absence of clear national or state goals, districts developed local procedures. Districts, local superintendents, and principals often abdicated these responsibilities to teachers, with virtually no monitoring of resulting classroom practices. By the publication of the third *Handbook* (Wittrock, 1986), the research situation had changed considerably. The rudiments of a science of education now exist. However, practice has been slow to follow.

An important link between school-effects research and HRO literature is provided by two studies of teachers' behavior in more and less effective schools. Both Mortimore et al. (1988) and Teddlie et al. (1989) find that teachers in high-outlier schools (schools in which students performed much higher on achievement tests than did most schools serving communities with similar economic and ethnic characteristics) behaved in manners more like those predicted by the teacher-effects literature (Brophy & Good, 1986). Perhaps as importantly, these studies found greater *consistency* among teachers in more effective schools. Teachers were more likely to be moving students through their lessons at a good pace, and fewer teachers allowed high rates of time off task in effective schools. Stringfield and Teddlie (1991) find, for example, that schools in which many students are performing poorly, some teachers are getting no more than one half way through their math texts by the end of the school year. This poor performance means that the next year's teacher faces the extraordinarily difficult task of bringing many students up to grade level. The authors find that this higher rate of consistency on the part of teachers was clearly related to the behaviors of the principals, and not related to the income levels of the communities being served. Some principals are already insisting on, and getting, relatively high reliability in instructional delivery.

HROs recruit and train extensively in order to compel adherence to Standard Operating Procedures. Yet at peak times, professional judgment is valued. Kozol (1992) repeatedly observed that children at risk need the highest quality teachers, yet often do not get them.

There is very little research on teacher, principal, and superintendent recruitment, and essentially none on the "effects" of recruitment. (For an initial effort that deserves multiple replications, see Wise et al., 1987). Research on the "how to" of effective training has made much greater progress (Showers, Joyce, & Bennett, 1987; Lewis & Miles, 1990; Fullan, 1991). For staff development to change the instructional patterns of teachers, it must include presentation of theory, modeling, time for practice, and timely, individualized feedback. There are three important points here. First, these findings have face validity. Any adult who has learned to ski, or play tennis, or to use a new computer software package can quickly recognize that these are very nearly the steps they took toward incorporating new skills. Second, these steps are often assumed in other fields. Resident surgeons do not learn new procedures just through reading a book or attending an inservice session after work. They observe their colleagues, and then are repeatedly observed performing the new task and provided with "real time" feedback. Third, we have extraordinarily limited experience with such change-bearing staff development in education. The one day workshop is the norm. Multiple day workshops, spread across a semester or year are becoming more common; but the large-scale work of coordinated, in-class modeling and feedback must necessarily be the work of principals, program facilitators, and within-school peers. These are not nearly frequent enough events in U.S. education today.

Ward and Tikunoff (1989), and Kirby et al. (1992) have conducted detailed studies of teacher induction programs, both of which found school-level effects. However, much more research on the long-term effects of various induction and staff development programs is needed.

Stringfield and Teddlie (1991) found that principals in positive-outlier schools were more likely to take an intense interest in staff recruitment. They found that, by contrast, principals in low-outlier schools passively accepted "what they [central administration] send us." Stated differently, where pairs of schools that were serving economically and ethnically similar families were obtaining markedly differing student achievement rates, the school with the higher achieving students almost invariably paid much greater attention to recruitment and evaluation of teachers. This was particularly true in schools that served high numbers of students at risk.

HROs have initiatives that identify flaws in Standard Operating Procedures, and nominate and validate changes in procedures that prove inadequate. The author is unaware of large-scale research on school or district-level efforts at systematic, organizational efforts to identify flaws within schools and correct them. However, Mortimore et al. (1988) and Stringfield and Teddlie (1991) describe principal and staff actions in more effective schools that might serve to identify problems within schools and facilitate correction. Stringfield and Yoder (1992) present a case study of an exemplary school serving highly disadvantaged Hispanic children. That school consistently developed standard operating procedures and with equal frequency sought out methods for improving those procedures.

The 1988 Hawkins-Stafford Amendments to the U.S. compensatory education laws mandate a self-study and program improvement process for schools in which compensatory education students are not making adequate academic gains (LeTendre, 1991). Thousands of schools have been identified nationwide (Heid, 1991), and in several states those schools have entered into an extended self study with the eventual goal of school-directed improvement (see Stringfield, Davis, & Billig, 1991).

Most visitors to "light house" schools have seen schools and, less often, districts in which teachers had clear, open invitations to provide corrective feedback regarding flaws in schooling systems. They may have seen clear effects from that feedback. However, it is probably safe to say that the typical U.S. teacher does not view herself as having open access to processes that could change significant school and district procedures. Note that the very existence of "light house" schools within districts speaks to the acceptance of low reliability in the implementation of schooling in U.S. education. If schools and districts are to reliably educate virtually all students at risk, teachers and principals must have more voice in establishing and modifying school procedures.

HROs are sensitive to the areas in which judgment-based, incremental strategies are required. They therefore pay considerable attention to performance, evaluation, and analysis to improve the processes of the organizations. U.S. education is currently undergoing increased emphasis on performance-based evaluation of teachers (e.g., Millman, 1981, 1989). Bridges (1986) has conducted a scholarly analysis of procedures for managing incompetent teachers. Bridges' work demonstrates that effective action is possible, though rarely undertaken. The author concedes that the majority of incompetent teachers are allowed to continue to intervene in the educational lives of children. Obviously, this derails all efforts at raising education's reliability.

Stringfield and Teddlie (1991) report that principals in more effective schools took teacher recruitment, development, and evaluation more seriously than did principals in negative-outlier schools. Most of the principals in the positive-outlier schools had counseled-out, forced the transfer, or otherwise removed one or more teachers from their staffs. In some schools, that rate of moving out lower-performing teachers who decline repeated opportunities to modify their instructional performances exceeds 50% (e.g., C de Baca, Rinaldi, Billig, & Kinnison, 1991). That was rarely true of principals in negative-outlier schools.

In high reliability organizations, monitoring is mutual (administrators and line staff) without counterproductive loss of overall autonomy and confidence. In the U.S. there is currently minimal evaluation of teachers by administrators or fellow teachers, and virtually no evaluation of administrators by teachers. Both Rumberger and Larson (in press) and the Fine (in press) present systems in which peers become much more aware of each other's teaching. Team meetings regarding steps to accelerate an individual student's progress, team planning by teachers, team teaching, and peer observation are all steps toward opening up the process of teaching. Anonymous teacher evaluations of principal performance are rare, but I have visited a few schools which gather and aggregate this data. In almost every case the principal said that this new procedure was initially painful, but ultimately productive. This is a step toward institutional reliability.

HROs are alert to surprises or lapses. The experience of HROs is that small failures can cascade into major system failures, and are hence monitored carefully. The author is unaware of studies focused specifically on schools' responses to surprises or lapses. Mortimore et al.'s (1988) "purposeful leadership," "maximum communication between teachers and students," and "record keeping," all found to be characteristics of more effective schools, would logically lead to quicker responses to surprises or lapses. Similarly, Stringfield and Teddlie's (1991) "attention to daily academic functioning," as a school-level predictor of school effects, would logically lead to quicker discovery of and response to lapses. The teaming in Philadelphia's Charter schools or in several Coalition of Essential Schools projects almost certainly leads to quicker identification of problems and responses to lapses. The quarterly, curriculum-specific testing which is a component of Success for All (Slavin et al., 1992), provides an example of steps which can greatly decrease opportunities for cascading errors in students' educations.

In many schools serving students at risk, significant percentages of students arrive in second and even third grade unable to read. It is not plausible that previous teachers have not noticed these deficiencies. Yet it is obvious that adequate remediation had not been instituted. Such programs as Success for All (Slavin et al., 1992) and Reading Recovery (Pinnell, 1988), when successfully implemented, show that these situations are in no way inevitable, rather they are allowed to happen. For the error of not teaching a child to read to be allowed to cascade through several grades, a school must be operating at a low reliability level. We will not achieve the America 2000 goals with such performances. High Reliability Organizations point to a different structure and results.

HROs are hierarchically structured, but during times of peak loads, HROs emphasize a second layer of behavior that emphasizes collegial decision making regardless of rank. This second layer is characterized by cooperation and coordination. At times of peak activity, line staff are expected to exercise considerable discretion. U.S. schools are hierarchically structured. Expectations during "peak" times have not been systematically studied, but probably vary greatly. The author's impression is that during peak times at some schools, accommodations are made, everyone pitches in, and important functions continue to operate. By contrast in some schools, temporarily heavy loads become excuses for non-performance by key staff members. Things break down. To educate all students at risk, systems must be in place that rarely break down and invariably catch the breakdowns and correct them. HROs rely on the competence of all professionals in the facility and distribute responsibility accordingly.

High Reliability Organizations regularly respond to potentially disastrous

situations as being far too important to trust to rules alone. Authority patterns shift from hierarchical to functional-skill based authority, as needs arise. Large U.S. school districts generally, and "special education" programs in particular, are rule-focused and rule-driven. In some schools and districts, exceptions to rules are almost never tolerated. This is often to the short- and long-term detriment of specific children. Schools and districts must be responsive to the needs of students who might fall through the cracks in a rule-driven system. Madden et al. (1991) offer examples of systems designed so that professionals "catch" students who might fall behind.

Especially during times of peak performance, staff are able to assume a close interdependence. Relationships are complex, coupled, and sometimes urgent. A high level of coordination between compensatory and regular classrooms was found to be a characteristic of more effective compensatory education programs in the U.S. (Griswold, Cotton, & Hansen, 1985; Allington & Johnston, 1989). Mortimore et al. (1988) find that involvement of teachers in decision making and consistent teacher inservice programs were both related to school effectiveness. Stringfield and Teddlie (1991) also report that high levels of cross-classroom and cross-grade coordination were positive predictors of school effects. Professional isolation is the enemy of any program trying to truly serve students at risk.

Equipment is maintained and kept in the highest working order. Responsibility for checking the readiness of key equipment is shared equally by all who come in contact with it. This is not true in most U.S. schools, where non-functioning equipment often sits unrepaired for months or years. A striking feature of equipment maintenance in many schools is the extent to which unnamed persons beyond the school are often viewed as being responsible for maintenance. This situation may in part be a result of many educational administrators viewing no equipment, beyond heaters and an office telephone, as "key" and deserving of their personal attention.

HROs are invariably valued by their supervising organizations. There is some evidence (e.g., Wimpelberg et al., 1989) that school districts provide more attention and support to some schools than others, and that it is often the schools in the least advantaged neighborhoods that receive the least attention and local support. Stringfield and Teddlie (1988) observe that some school districts, rather than retraining or terminating manifestly unskilled teachers and principals, assign them to schools serving the least advantaged families. Such actions do not indicate high valuing of *all* students and schools by central offices.

The accountability requirements of the Hawkins-Stafford Chapter 1 Amendments of 1988 have led some districts to pay increased attention to the schools serving higher percentages of students at risk. Winfield (1991) reports that in order to facilitate a shift to "schoolwide-project" use of federal compensatory education funds for schools serving students 75% or more of whom receive free lunches, one large school district discontinued its practice of requiring some schools to accept the involuntary transfer of probationary teachers. This would appear to be evidence of increased valuing by central administration of the schools serving high percentages of students at risk.

Short-term efficiency takes a back seat to very high reliability. U.S. education has spent much of the last 30 years attempting to become more efficient, and much public dialogue concerns ridding education of "wasteful management. " For the Charter Schools to succeed, Fine notes that teachers need to work together over time. The school district undermines these efforts when it "bounce[s] teachers out of the Charter because the school has a momentary drop in enrollment" (1992, p.10). If the goal is restructuring, some short-term efficiencies must be temporarily set aside.

Implications for Schools of HRO Status

In summary, the high reliability organization literature describes 13 characteristics of organizations that are required to operate trials without cascading errors. This is the requirement increasingly being made of schools. Several school-effects studies suggest linkages with the HRO literature. However, for a typical school serving large numbers of students at risk to become an HRO, it would need to make major changes. Some of those changes would require support from above the school. Schools and administrators would need to clarify goals; create and clarify Standard Operating Procedures (SOPs) as regards curriculum, instruction, and the handling of various student- and task-management issues; greatly increase goal-directed staff development; further open access to rule-making; improve two-way staff evaluation procedures and practices; be clearer and more flexible in dealing with situations in which special needs of children must be met (bureaucratic concerns must occasionally be subsumed under practical, extraordinary needs); the isolation of teachers would have to be replaced with more collegial working relationships; a school would need to allocate funds not just for procuring new equipment but for maintaining existing equipment and the school would have to be guaranteed a certain level of stable support from its district. These changes will be difficult, but they are necessary steps for schools serving students at risk.

The most important shift in considering HROs, however, is not in the specific characteristics of the organizations. Rather, it is the intellectual shift that must precede the evolution of the characteristics. The most important characteristic of HROs is a perception, held by the public and the employees, that failures within the organization would be disastrous. Bhopal was disastrous. Three Mile Island was very nearly disastrous. Schools serving children at risk will increase the reliability of their work as the public and the professionals working within the schools come to view children's not learning to read as constituting individual travesties and public disasters. HROs evolve; they do not arrive complete. They evolve because the public demands them, and pays for them.

Throughout the history of public education, the responsibility of schools has been to provide instructional processes to those deemed by the schools to be willing and able to benefit from schooling. It was presumed that others, including students who would now be described as "at risk," would drop out. The schools systems became efficient at achieving these demands, but the goal was efficiency, not reliability.

Gradually, over the past several decades and rapidly today, the mandate to educators has changed. The new mandate, clearly expressed in "America 2000" and other policy documents, is that schools be responsible for producing high achievement levels among *all* students. Given that schools have previously demonstrated competence at educating many students, the new issue is one of much higher reliability.

To date, the field of school-effectiveness research has focused much of its energy on identifying variables that explained differences between schools in which students scored higher or lower on achievement tests, attended school with greater or lesser regularity, and so on. The practical implications of this research were assumed to follow naturally: If researchers could determine what the best schools had, and give it to all schools, all students' achievement levels would rise.

The high reliability organization literature offers support for some of the findings of previous research. In particular, it supports the familiar characteristics of clear goals, attention to evaluations, and close coordination.

However, the HRO literature suggests several other areas of needed changes that may be necessary for schools to serve all students well. Those areas clearly merit practical attention and academic study. The development and maintenance of standard procedures where appropriate, the extensive use of staff development, the importance of open lines of communication, mutual monitoring, alertness to surprises or lapses, and the maintenance of equipment may be among the most important factors affecting the quality of educational services provided to students at risk.

In addressing these areas, schools, districts, and the federal government would simultaneously address several of the issues raised in the preceding chapter. By opening communication and increasing two-way accountability, schools would get much more accurate pictures of their unique needs.

By loosening regulations and increasing a focus on staff development regarding the use of $6 billion per year in Chapter 1 funding, the federal government would increase the value of human capital serving students at risk in Chapter 1 schools. By modifying the "supplement not supplant" rule so as to require coordination among service providers, Chapter 1 could reduce professional isolation, particularly as it relates to service for individual children at risk.

By entering into a greatly expanded program of national research on teacher, school, and program effects, the federal government could greatly assist local districts that seek proven options for improving services to children at risk. By funding the continued development and expansion of programs that have been proven to work, and by providing independent evaluations and cost-analyses for implementation and institutionalization of the programs in various contexts, the federal government could provide an invaluable tool as schools seek not just "programs that work," but programs that are well-suited to the particular conditions faced by a specific community and school.

Two areas suggested by HRO researchers seem particularly worthy of future research on the education of at risk students. These are clear evidence of valuing of schools by central offices, and the primacy of high reliability over short-term efficiency.

There is no systematic literature on the role of central offices in creating school effects. Wimpelberg (1989) makes a first approach at defining "a central role for the central office" and Fullan (1991) notes several features of districts and higher levels of government that facilitate innovation. The HRO literature would suggest that unless the central office places considerable value on the performance of students within *each* school, long-term school effectiveness is unlikely.

If schools are being increasingly counted on to produce virtually universal high rates of student achievement, if, in the words of LaPorte and Consolini (1991), "Increasingly, any failure of these technologies is perceived both by their operators and by the public to have such potentially grave consequences as to warrant the absolute avoidance of failure " (p.19), then over time all schools will be asked to become HROs. This will be most difficult for schools serving large numbers of students at risk. Research on school and program effects now demonstrates overlap with the HRO literature. This suggests a systemic path toward progress.

An important policy-relevant conclusion concerns fiscal support for public schooling. HROs cost more than traditional industrial plants. They cost more because they are operating under different demands. Efficiency assumes a certain level of fault tolerance. The greater the tolerance for occasional failures, the greater the possible efficiencies. HROs are designed to achieve trials without errors. If the political rhetoric of "America 2000" and similar documents is to be taken seriously, then the supporters of that rhetoric need to understand that higher reliability is, in the middle term, more expensive. It will help if our political leaders remember that in the long run it would have cost less to have operated the Three Mile Island nuclear facility reliably, than it is costing to clean it. It will cost less to provide highly reliable schools for students at risk, than to pay for continued expansion of welfare, police, and prison programs.

We now know enough to improve the reliability of schools for students at risk. Many of the systemic, school-, and classroom-level changes can be described and undertaken. Whether as one nation and as a conglomeration of over 15,000 school districts we can muster the will to fully implement what we know, fund the search for new knowledge, and achieve universally high quality schooling for students remains an unanswered question.

CONCLUSION

Historically, separate and unequal schooling has limited the educational opportunities of poor children and children of color. In addition, these children sometimes have problems outside school that interfere with learning. Hunger, poor health, high mobility, homelessness, violence -- these are just a few of the problems that many young people face in impoverished urban and rural areas.

They also must confront a less tangible threat -- the devaluation of their talents and potential. They are labelled "problem children" or the "special needs population," implying they are somehow intrinsically less intelligent, more needy. But sufficient food, shelter, health care, and schooling are basic, not "special" needs, and cultural differences become a problem only when we fail to address diversity honestly and fairly.

Poor children and children of color are not the only students at risk. Perhaps more than at any other time in the nation's history, schools are being asked to recognize and address the needs of children who suffer from emotional problems, abuse, or neglect. Schools are also increasingly aware that low social status may depress student performance regardless of family income: Recent studies, for example, describe the ways in which girls may be discouraged from pursuing male-dominated professions. And the media seems to remind us daily that academic mediocrity may place all U.S. students at risk of being unable to compete in global markets.

In this review, we have concentrated on efforts to improve the schools and environment of poor children and children of color. Many of the reforms targeted at this population may suggest ways of making schools more effective for all students and improving society as a whole. In Section 1, we have integrated research on students at risk into a conceptual framework for addressing the societal, home, and school-related factors that influence academic success. High academic achievement and success in adult life is most likely when children receive resources, incentives, and a "push" to excel from the multiple social systems that they participate in.

In Section 2, we look at specific strategies to improve the school environment and to develop supportive networks for children with individuals and groups outside schools.

Since the 1960s, the compensatory education movement has generated various programs to help schools better serve "disadvantaged" students. We have considered a sample of these efforts, drawing attention to their strong and weak points. We have noted the consistent paucity of well-designed evaluations and encourage program developers to incorporate a scientific evaluation plan from the outset. We also have introduced what, in our view, are four critical dimensions of a comprehensive school reform effort: academic success, relevance, positive relations within school, and supportive conditions beyond school. We have set forth the integration of these four dimensions in a comprehensive program geared toward better educating students and achieving academic success with high reliability -- a goal yet to be attained in the current drive for school reform.

In Section 3, we have argued that, to achieve this goal, schools must engage in contextually sensitive organizational development, which includes maintaining standard procedures, fostering staff development, improving communication, providing high quality instructional materials, and establishing monitoring procedures. Most importantly, those involved in school reform must aim for excellence for all students. In the past, our school systems tolerated a level of academic failure that is incompatible with current economic and social objectives. School systems that foster high levels of academic success may be more expensive than those that tolerate academic mediocrity, but in the long run providing high quality schools for all will be less costly than dealing with the effects of educational failure.

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